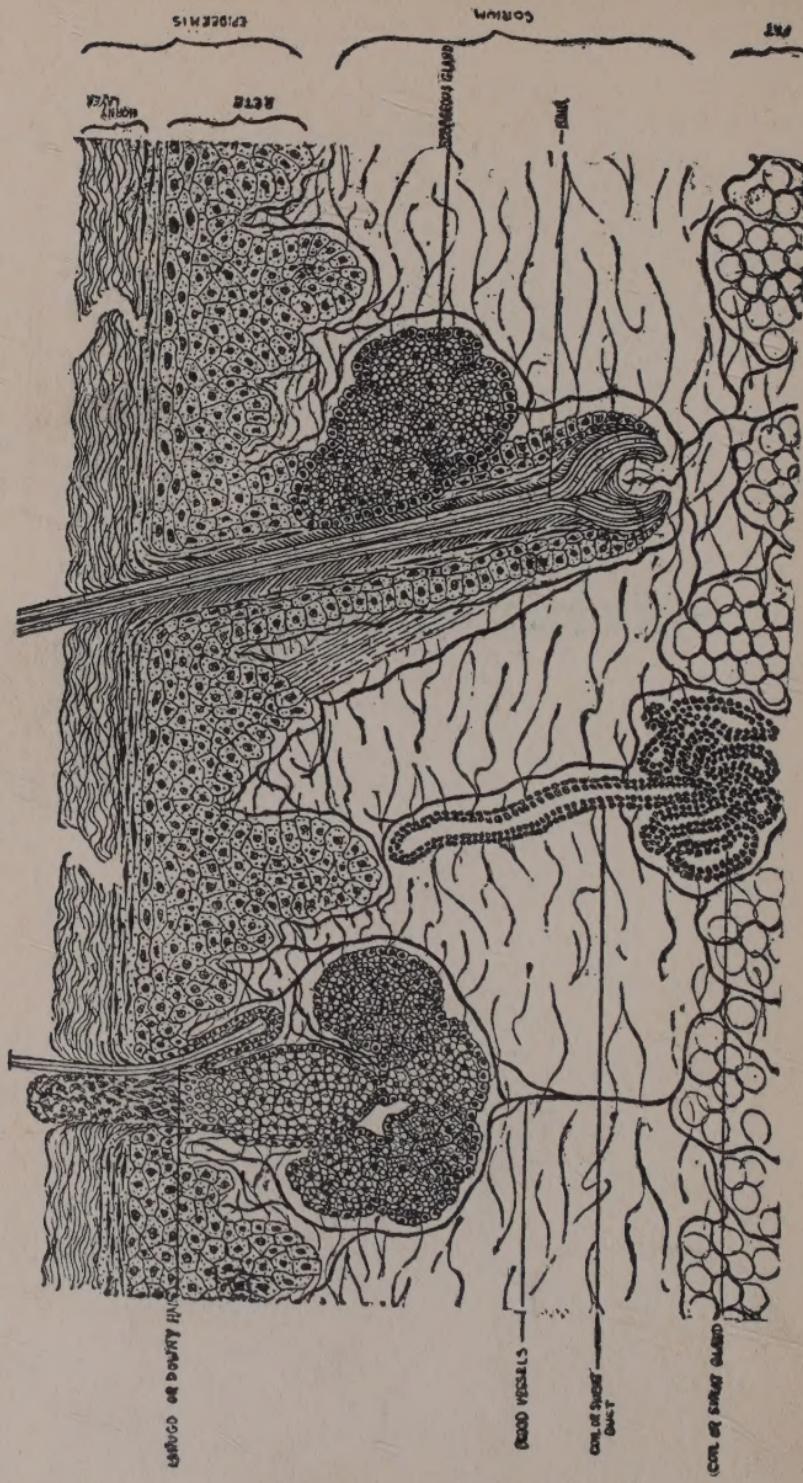


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THE CARE
OF THE FACE
OSCAR L. LEVIN, M.D.

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THE CARE OF THE FACE



Cross-section of skin and its component parts.

THE CARE OF THE FACE

BY

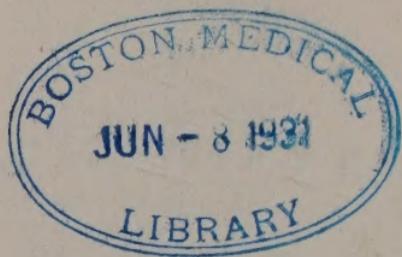
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INTRODUCTION

WE are known by our faces, in more ways than one. Even our characters, with little justice, are known by our faces. An ugly face may mask a fine personality, but we seldom discover it. A beautiful face may cover more sins than charity—and excuse them, too. A repulsive face will ruin opportunities for social or business advancement. Our faces, then, make or mar our happiness more often than not. That we are aware of this is shown by the time and attention we spend on faces—our own and others!—and by the hundred odd millions of dollars a year that we spend, or waste, on supposedly beautifying cosmetics.

Unlike other important organs of the body, the protection of the skin of the face has not been provided by nature. Neither is it covered by clothes. It is exposed to the wear and tear of climatic and atmospheric conditions. It is constantly abused by all sorts of medicines and cosmetics. It is the target at which thousands of quacks fire their volleys. No wonder a normal complexion is rare! We begin life with almost perfect complexions. It is our birthright! But, as soon as we have a chance, we sell it for a mess of potage.

This book is confined to the care of the skin of the face. It is my purpose to explain what makes a good skin and how to keep it; and what things contribute

to bad complexions, and how to prevent or properly treat them.

Plastic surgery has advanced to the point where it can sometimes remodel faulty features. But plastic surgery is another subject, and one that has not got very far beyond the experimental stage. There are still a great many quacks injecting paraffin into noses, and otherwise making bad jobs worse. Also there are many face peelers and beautifiers who do the skin more harm than good.

One should never consult a plastic or cosmetic surgeon who is not vouched for by one's regular physician.

So far as the general appearance is concerned, the skin of the face is more important than the features. This may seem like a misstatement—though most women will admit its truth. If you doubt it, try this test:

Get some one to point out, in a crowd of strangers, the individuals he or she considers handsome, beautiful or, in general, attractive. Good clear skins will win every time. Beauty is, indeed, skin deep. Without a good skin the most shapely features will not make beauty. One may be handsome with the most irregular features, if the skin is good. But Venus with a blotched, sallow, pimply face would not be Venus.

There is a logical reason for this universal prejudice in favor of good skins. Our complexions are a barometer of our general health. Health is always an attractive thing to behold. It is the great magnet of personality.

Most women realize the importance of complexion, but all too few men appreciate it. His complexion, after all, is a man's best bet. About all he can do to main-

tain a good appearance is to look clean and healthy and well groomed. If he has a clear skin, he only needs to keep shaven and shorn and he will have done his best for himself. Clear skins sell more goods than high-pressure sales talks.

Care of the face does not mean simply cleansing and powdering it. No cosmetics can take the place of health. Powder and rouge, thick enough to cover a bad skin, betray what they seek to hide. Salves may dry up pimples; but the pimples will return if their cause is not found and removed. To have a good complexion, there must first be a sound basis of general health, and after that, proper and patient care of the face itself.

It is to help to keep faces as good-looking as fortune intended them to be that this book is written. The structure of the face, constitutional health and diets as they affect the complexion, local treatment and hygiene and diseases of the face are described. No rare diseases have been included. The book is distinctly intended for the average person who must make the most of the face nature granted. If it can help the reader to an understanding of the treatment due a face, and to a realization of what fine results proper treatment may accomplish, it will have fulfilled its purpose.

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CARE OF THE FACE

CHAPTER I

THE SKIN

Structure of the Skin—What the Skin Does

THE skin is an organ. That statement may sound startling, because many people think of the skin as a sort of external casing—entirely apart from the functions of the body—just an envelope into which the body is stuffed.

But the skin is as truly an organ as the heart, liver, kidneys or lungs. It functions—works, produces. Not only that, but it is one of the most productive, hardest working of all the organs. It does more things, and more kinds of things.

It produces oil, sweat, hair, and nails. It absorbs, throws off wastes, breathes. It protects the body from the elements in the air and regulates its temperature. It has superficial diseases of its own, and it almost always suffers when other parts of the body are sick. There is scarcely a disease which does not, in some way, at some time, affect the skin.

And it does not eat “skin food.” Like any other organ, it gets its nourishment from the blood, and no amount of advertising can persuade the skin to live on perfumed fat rubbed into it.

STRUCTURE OF THE SKIN

In composition the skin is a tough, flexible membrane. Its texture varies. In some parts of the body, such as the lips, the eyelids, it is soft, smooth and tender. Over the joints, and on the feet and the hands, it is tough and dry and perhaps rough.

Almost every part of the skin shows hair, either coarse or downy; and the entire surface of the skin is marked with minute lines and pores. The skin markings—friction ridges and pores—of given areas are never alike in any two individuals. That fact is rather commonly known as it applies to finger prints; but it is perhaps not so widely known that any other part of the body would do just as well as the fingers, if it were as convenient for printing.

The thickness of the skin varies. On the back, buttocks, palms and the soles, it is thickest. It is thinnest on the eyelids. The color of skin varies according to race and geography.

There are three main divisions of the skin. The outermost layer is the epidermis. Under it is the true skin, called the corium. Under the corium is a third layer called the subcutaneous tissue.

The epidermis, sometimes called the cuticle, is a membrane composed of epithelial cells. It covers the corium everywhere, adapting itself closely to every depression and elevation of the corium.

The epidermis, or cuticle, is made up of two main layers and two minor layers. The main layers are the corneous, or horny, and the mucous layers. The layers of lesser importance are the lucid, or clear, layer and the granular.

The corneous is the outermost layer, the very top stratum of the skin. Its chief function is the protection of the mucous layer. It is of a grayish color, and opaque. It is composed of many-sided cells which taper at each end and are arranged in strata. In the upper strata the cells are flatter, drier and more shrivelled than in the lower. On the surface they are dried, horny and wrinkled. They are here called epidermic scales.

Where the horny layer is thickest, as on the palms and the soles, there is another layer, the stratum lucidum, or clear layer, which is interposed between the horny layer and the granular. It is a deep-seated, bright, transparent, thin, flattened layer of cells. It is of very little physiological importance.

Under the horny, or clear, layer is the granular layer. Actually it is very little more than the top stratum of the mucous layer. It is composed of two or three strata of coarse, granular cells. These cells have to do with the process of forming the horny cells on the free surface of the epidermis.

The deepest of the four layers of the epidermis, the mucous, is the most important, because it is the living stratum and the one which produces. It is composed of several strata of cells which are many-sided, and which, because of their prickle-like projections, resemble microscopic chestnut burrs. The form and size of these cells differ in the various strata, but each has its nucleus.

Under the epidermis is the corium, or true skin. It is the most important part of the skin. Instead of horny cells, it is made up of fibrous tissues. In it are the elastic fibres, the blood vessels, nerves, lymph vessels, muscles, hairs, oil and sweat glands and the fat cells.

The upper part of the corium contains little nipple-like prominences called papillæ. The lower part gradually shades without any border line into the subcutaneous connective tissue. The elasticity of the skin as a whole is mainly dependent upon the elastic fibres of the true skin. If these fibres are numerous and healthy, the skin is likely to be smooth and have a good "tone." If they are scanty and atrophied or shrivelled, the skin sags or wrinkles.

The papillæ are not independent structures, but projections of the surface of the corium. There are two kinds of papillæ: vascular and sensory. The former are supplied with blood vessels and have to do with the nourishment of the skin and the hair follicles. The latter contain nerves. It is on the ends of the fingers that the sensory papillæ are most numerous, giving the fingers their delicate sense of touch. On the average finger tip there are about 400 papillæ to $\frac{1}{12}$ square inch of surface, or approximately 4800 to the square inch.

Directly beneath the corium are bundles of connective tissue arranged in criss-cross fashion to form a network. The bundles or strands of tissue cross each other at such angles that the interstices are more or less diamond-shaped. This network is the subcutaneous tissue. In most places it contains a great deal of fat. The subcutaneous tissue is especially fatty on the face.

The subcutaneous tissue contains blood vessels, nerves, lymphatics, sweat glands and the bases of hair follicles. It is from the subcutaneous tissue that the main blood vessels of the corium ascend, to branch off

in all directions, supplying the oil and sweat glands and the hair follicles.

The subcutaneous tissue serves as a pad, or cushion, for the delicate blood vessels and nerves, and protects them from external pressure and injury. In addition, it acts as a regulator of the temperature of the body, for it is a poor conductor of heat.

Every bit of skin is marked with lines, furrows and folds. This is true not only of the outer covering, the epidermis, but of the other layers as well. The visible lines on the surface are caused by the movements of the skin, and the number of lines or folds is dependent on the number of movements of which that part of the body is capable. When the individual is young, the skin is more elastic. Motion of expression, such as speech, smiling, frowning, produces lines or folds in the elastic skin, but usually not permanently; they smooth out. With increasing age, however, the skin loses its elasticity. The lines deepen, the folds or wrinkles grow thicker. As fat disappears the elastic skin shrinks too; but in aged people the skin being no longer elastic remains in excess where it has been stretched and forms bags and wrinkles.

Lines and wrinkles, it is thus easy to realize, are inevitable. If an individual froze his face to a single expression and never changed it, he might escape wrinkles until old age atrophied the fatty tissues under the epidermis. But he would have to prop his eyelids permanently open and take his food through a tube to the stomach. Eating and winking would bring the lines, no matter how wooden the expression.

From this description of the structure of the skin

it should be obvious that it can no more be nourished by external feeding than can the teeth. Like every other part of the body, it feeds on blood, and blood is its only food.

Yet millions of dollars are wasted every year on "skin foods." It is difficult to conceive any more poignant tribute to the power of advertising—and to humanity's ignorance of itself. There are certainly some cosmetics which, intrinsically or because of the massage necessary to their application, have some value in beautifying the skin. But they do not, cannot, "feed" it.

To imagine that oils, fats and greases can be rubbed into the skin and give it food and health and growth is as abysmally idiotic a notion as one can entertain. It would be as logical to rub pickled herring on the head in order to gain brain power. Any one who has laid by a stock of "skin foods" had better eat them. If they have any food value at all, it is through the commonplace process of digestion and blood circulation. And since they rarely prove palatable, it will save time if they are bestowed upon the garbage man.

The same applies to "hair foods," no matter what barbers or permanent wavers may say; it is impossible to put anything into the hair from the outside. It has no hollow tube. It neither bleeds nor absorbs food from outside.

There are a great many nerves in the skin, particularly around the small blood vessels. These nerves influence not only the vascular, or blood-circulatory, system, but the muscular and glandular system of the skin. It is these nerves which increase or diminish the circulation and so cause flushing or paling of the skin.

They contract certain muscles and cause goose flesh—ennobled in medical parlance as *Cutis anserina*—and make the hair stand on end. By stimulating the sweat glands they cause profuse sweating.

There are two kinds of muscular tissue in the skin: the striped, or voluntary; and the unstriped, or involuntary. The former is found only in certain regions, particularly about the face, and there most especially about the lips, but also about the nose, the eyebrows and the chin. In many animals there is a whole layer of these muscles, the *Panniculus carnosus*, which enables the animal to move its skin voluntarily—as horses twitch their skin to rid themselves of flies.

The unstriped, or smooth, muscle is either in the form of muscular membranes or of muscular bundles. The membranous form is present where the skin is normally folded. The bundle form is seen in the *arrectores pilorum*—the muscles of the hair follicles. They are absent from the hair follicles of the eyelashes, the eyebrows, the hairs of the lips and the armpits. These muscles not only cause goose flesh by suddenly contracting upon the hair follicles, but compress the fat and sweat glands and make them evacuate their contents.

A deposit of pigment, or coloring matter, in the mucous or lower strata of cells of the epidermis gives the skin its general color. The cells themselves are slightly stained by this pigment, their nuclei are more intensely stained and, in addition, there are fine granules of the pigment in the cells. Where the coloring is not strong, only the deepest stratum of cells is pigmented; but where the coloration is deeper, several strata or the whole mucous layer may contain the pig-

mentary deposit. The horny layer of the epidermis never contains pigment granules, but occasionally it is slightly stained with a yellowish hue.

Pigment cells are also found in the corium. In the white races pigment in the corium occurs mostly in the more deeply colored parts of the body; but in the colored races practically all parts of the corium are pigmented. The pigment cells are more highly developed in the colored races than in the white. The whole mucous layer is highly stained and even the horny layer is discolored. The pigment granules themselves are darker, varying from brown to black. As is well known, the babies of the colored race are born with comparatively light skin, the pigmentation increasing rapidly afterward. Some very interesting experiments by Karg have shown that a white man's skin grafted on a negro becomes dark, and that a negro's skin grafted on a white man rather quickly loses its dark color.

The fat, or sebaceous glands are seated in the corium and subcutaneous tissue. They are connected mainly with the hair follicles, into which they excrete sebaceous matter. They occur wherever there is hair and, in addition, around the red part of the lips and in a few other regions. On the nose the glands accompany the lanugo, or down hairs, and are very large and well developed. The glands on the spiral of the ear are also large.

The sebaceous gland consists of a secreting portion and a duct. Its product is an oily, fatty, semi-fluid, uncryallized substance, whitish or yellowish in color. It lubricates the hairs and the skin surface to protect it from the atmosphere. The largest of all sebaceous

glands are those called the Meibomian, which are embedded in the free borders of the eyelids.

The sweat glands are spirals or coils seated in the subcutaneous tissue. They open upon the surface of the skin through numerous openings called pores. Sweat glands are most numerous on the palms and soles and the largest are found in the armpits.

Sometimes the excretory ducts open into the hair follicles, as in the eyelids.

The hair follicle is a cylindrical depression of the corium and the epidermis. It dips down through the corium into the subcutaneous tissue. The mouth of the follicle opens directly on the surface of the skin. Just below the papillary layer is the narrowest part of the follicle, the neck. It is at this point that the excretory duct of the sebaceous gland enters.

Below that point the follicle runs into a sort of bowl, which holds the hair bulb and the hair papilla. The follicle is almost always placed obliquely in the corium. Its course is usually straight or slightly curved, but on the lips and eyebrows is markedly curved. Follicles may occur singly or in groups. On the scalp, groups of as many as five may exist.

The hair papilla, a club-shaped structure, lies at the base of the follicle. It is made up of connective tissue and blood vessels mainly. The life and growth of the hair and the follicle depend on the papilla. Laymen refer to the bulbous end of the hair as the "root."

Hairs are found on all parts of the body except the palms, soles, eyelids, finger and toe tips and the lips. There are about 1000 hairs to the square inch of the average scalp, or 120,000 to the entire scalp. Blond

hair is the most luxuriant, running to as many as 140,000 to a scalp. Red hair is least luxuriant. Some heads of red hair number only about 90,000. Flaxen hair is the finest, measuring $1/1500$ of an inch in diameter. Black hair is the coarsest, being $1/450$ to $1/140$ of an inch in diameter.

The hair and the follicle are seated at greater depth in the skin of a negro than in that of a white man, and the follicle is also curved. It is this curve that gives negro hair its kink. There are three kinds of hair: long, bristle and downy, or lanugo. The color of the hair varies with race and individual. It depends on pigment granules, soluble coloring matter and the presence of air. The coloring of the outer layers of the cortex (the external coat of the hair) usually gives the hair its shade. Even though the centre of the hair is dark, there is air in the cortex, and this air lightens the color. Thinness or absence of general coloring matter and pigment granules makes hair gray and transparent; and when the air in the cortex is increased, the hair becomes white.

WHAT THE SKIN DOES

The skin has several definite uses and functions. When any of these is interfered with, no matter how slightly, the health of the individual is disturbed. As has been said, the skin is an organ of sensation and touch, it regulates heat, breathes, secretes, excretes and absorbs.

The horny layer of the epidermis is a protection against the absorption of dangerous substances such as acids and caustics. The secretions of the oil glands aid

in the protective work. In addition, the horny layer acts as a check on the too rapid evaporation of water from within.

The corium is tough and elastic, and is a valuable buffer against external shocks and injuries. The subcutaneous tissue contains the fat which is so useful to the cutaneous covering as a whole. On the amount of this fat depends to a great extent the beauty or lack of beauty of the skin. The hairs, especially those on the scalp, strengthen and shield the skin and in addition help to protect it from heat and cold.

Nerves and special nerve endings in great numbers give the skin its power of conveying varied sensations to the nerve centres. Heat and cold are originally felt in the skin. Burning, scalding, smarting, pricking, itching, tingling, creeping and tickling sensations originate in the skin. We can "see" with our skin; that is, it contains a power of special sensibility to touch which can distinguish one object from another. Thus, with our eyes closed we can touch velvet and know it from linen, and so forth. The finest sense of touch lies in tips of the fingers; the least in the middle of the limbs.

By acting as a regulator of bodily heat, the skin helps to preserve a constant temperature of the blood. The secretions of the skin evaporate and thus drive off heat, which is thrown off also by radiation and conduction. The skin itself is far from being a good conductor of heat; but an increased supply of blood heightens its conductivity.

The condition of the atmosphere affects the secretion of sweat. Moisture in the air increases the secretion—a hot bath makes the body sweat more than a similar temperature of dry air would—and dryness,

because of the resultant rapid evaporation, retards the sweating.

It might be well at this stage to point out the potential dangers of the popular Turkish bath. There are many individuals for whom it is really dangerous, especially those suffering from any disease of the circulating system. The high temperature quickens the pulse and heightens the blood pressure. Never should one take a Turkish bath unless one can remain quietly resting for many hours after it. A bath which has relaxed the system and made it tender and subject to all sorts of depressive chills may be real folly for one who has not been hardened to it.

It is not often realized how important are the excretory functions of the skin. It is a very important assistant to the kidneys in ridding the body of waste products. If the skin be covered with such a substance as tar, through which the wastes cannot excrete, the results will be disturbing indeed. Vomiting, headache, discolored urine are some of the symptoms. A great deal of this disturbance is due to the absorption of the tar.

The secretion of the sebaceous glands, sebum, is to keep the skin normally greased and to lubricate the hairs. The importance of these functions is easily realized when, through some nervous disturbance, the sebaceous glands function irrationally and the skin and hair become dry and brittle.

The normal skin is almost entirely water-proof. But where the horny layer of the epidermis has been injured or is otherwise defective, water is readily absorbed—though only very small quantities are allowed to filter through into the under skin. When water does

seep through, the cells of the epidermis "drink" it and swell. It is this process that makes the body take on greater weight through long immersion in a bath.

It is chiefly the presence of the oily secretions that prevents the absorption of foreign substances to any great extent. For this reason, when it is desired to treat the skin medically through absorption, it should be well washed with soap, since the soap "cuts" the oils.

The skin breathes in a process similar to that of the lungs. While the amount of oxygen taken up by the skin is small compared to what is taken by the lungs, it is possible to cause suffocating by destroying the respiratory power of the skin.

If through a burn, for example, two-thirds of the area of the skin is badly injured, death may result.

A peculiar property of skin is its power to renew itself. That is because of the strong tendency of growth of the deeper layer of epithelial cells. The glands and hair follicles also play an important part in this regenerative process. As is well known, skin may be transplanted from one locality to another, and from one individual to another.

All of this should show that the skin is a highly complicated, useful part of the body. The chief thing to remember, however, is that the skin is an organ. If that is understood, it will be realized that the health of the skin and the health of the body are interdependent. Athletes know how clearly the general health is reflected in the skin—a boxer knows he is not in the proper condition until his skin shows the "velvet"—the indescribable soft glow, the "pink of condition."

CHAPTER II

General Health as it Affects the Face—Your Health and Your Complexion—Diet

THE face may not be the mirror of the soul, except in poetry; but it certainly is the mirror of the body. Complexions are dials on which the body's health is recorded. The skin of the face, being an organ with functions of its own, works in harmony with the functions of the other bodily organs. When the functions of the body are normal and the functions of the skin are normal, then the complexion is normal.

And a normal complexion is a good complexion. It should be, rather; for all too few complexions are as good as they might be. The reason is unhealthy constitutions.

Many skin diseases are caused by external agencies; but the majority result from constitutional disorders, even when the direct cause is external. The healthy skin depends on good blood for its nourishment and health. The poor skin indicates poor blood quality. Thus the skin may be affected by the abnormal working of any organ or system in the body.

Skin eruptions as a rule depend upon the vasomotor system. The vasomotor system is that part of the body made up of the nerves which control the action of the blood vessels, and the blood vessels themselves. The

nerves act upon the blood vessels to open or close them. This produces increased or diminished blood supply—flushing or blanching. The unhealthy skin results from a constitutional disorder which deranges the vasomotor system, or from bacteria or toxins (poisons) brought to it through the blood stream. When a skin is unhealthy, the procedure is the same as when any other organ—the kidneys, for example—is out of order.

Formerly physicians did little to emphasize the relationship between the appearance of the face and the state of the rest of the body. In their modest way they contented themselves with treating the constitutional disorders and ignored the troubles of that other organ, the skin.

Their failure to point out the relationship between the skin and the rest of the body resulted in a good deal of lay ignorance. That ignorance was not permitted to go to waste. Unscientific persons seized upon it as a business opportunity, and began to devise all sorts of innocuous trash which, they suggested, might be taken internally with great and untold benefits. Blood purifiers, these nostrums were called; and if they contained a satisfactory amount of alcohol, great was the sale thereof.

It was heartily alleged that these elixirs would relieve facial disease and blemish, bring the flush of youth to the aged cheek, restore anything but a broken heart—and why not that? It may be necessary, even now, to state that such claims are unwarranted. If so, the statement is again made herewith. Only a physician can determine what is the matter, and how it should be treated.

What seems like a trivial eruption on the face may

be the first sign of a severe constitutional disease. Therefore, when the dermatologist has finished his careful examination of the patient's skin, he may decide that a general physical examination is necessary in order to determine the constitutional disorder that is causing the eruption. Or he may find that the condition is limited to the skin of the face and needs only local treatment. Thus, the dermatologist's work is not solely in removing blemishes, but also in looking for danger signs of grave diseases. If his examination reveals something wrong constitutionally, constitutional treatment is necessary before the eruption can be permanently cured. Local treatment alone would mean little.

Besides seeking danger signals in the skin and within the body, the physician must obtain a detailed history of the patient and of his disease. In the course of questioning the patient it may be established that the skin condition is related to heredity or to climate, to sex or to age, to habits, diet, sleep, other diseases, or to a host of other factors.

Certain skin diseases are hereditary and congenital. Psoriasis, for example, is a chronic, hereditary, recurrent disease. Likewise syphilis may be congenital and may affect the face with sores or scars or ulcers.

There is even a strong racial influence upon the skin conditions. The negro is less susceptible to acute inflammatory disease, dermatitis, pus infections and skin cancers. The white man is less apt to show effects of syphilis, keloids and chilblains. The Hebrew is quite susceptible to conditions arising from diseases such as diabetes—especially boils.

Sex and age are factors. Women suffer from mild

rosacea and moles more than do men, who are prone to severe rosacea, pus infections and cancers of the face. Infants and children tend to suffer from eczemas resulting from improper feeding, and contagious diseases such as scarlet fever, measles and chicken pox; while adolescents are given to acne and seborrheic eczema. Adults specialize in rosacea, eczemas, drug eruptions, inflammations brought on by occupations, and infections of the beard. And on the skins of the aged, the lesions of senility make their appearance.

Climate and environment are important factors which affect the skin. Habits and standards of living are largely matters of climate. Food, clothing, personal and general cleanliness and sanitation are matters of environment. In hot, dry climates the skin of the face is more deeply pigmented and is harsh. Damp, swampy country inclines the face toward moistness and greasiness and susceptibility to pus germs. Fine skins are greatly harmed by the summer sun, which burns, tans, dries and toughens. Prickly heat is essentially a summer disease, while chilblain is a winter affection.

Diseases that affect the face may be common in one country and rare in another. Leprosy is common in some lands, almost unknown in others. Tuberculosis of the face is frequently met with in Vienna, favus or ringworm in Italy, and pellagra in some of our Southern states.

DIET

It should be obvious from ordinary experience, if not from this chapter's exposition of the relationship of skin and constitution that our diet has a great deal to

do with our complexions. An incorrect diet not only causes digestive and intestinal troubles, which reflect themselves as blotches and eruptions of the face, but fails to supply the skin of the face with the nourishment it needs. Special diets tend to overcome constitutional ailments.

Recent research in dietetics has achieved a classification of foods according to their value to the body. There are three classes of energy-producing substances used as food by man: proteins, fats and carbohydrates. Some foods contain more of one substance than another. A modern scientific diet is an assembling and balancing of foods according to the proportions of these three substances the foods contain.

For a comparison of foods of the same class it is necessary to have a unit of measurement. The unit of energy value is called a calory. A few foods of various classes are listed here, with their approximate number of calories.

*Foods high in Protein, or
Animal Food Value*

	Calories per ounce
Beef	45
Cheese	30
Fish	25
White of eggs	15

*Foods high in Carbohydrates,
or Sugar and Starch*

Sugar, refined	110
Cornstarch	100

	Calories per ounce
Tapioca	100
Rice	100
Dates	100
Bananas	30
Potatoes	25
Apples	10

Foods high in Fats

Lard	225
Salt Pork	220
Butter	210
Oleomargarine	210
English walnuts	200
Bacon	125
Cream	110

There are, of course, some foods which contain more than one of the three substances in appreciable amounts. Milk, for instance, contains a little of each of these three substances, plus minerals and water.

There are also foods which contain substances with specific effects on the system. Foods which contain a high percentage of cellulose and water, for example, have a cathartic action on the body. Some of these are:

Cabbage	9
Watermelon	8
Spinach	7
Tomatoes	6
Squash	6
Lettuce	5

Celery	5
Cucumbers	5

A well-balanced diet contains carbohydrates and fats as well as proteins; but the latter should furnish at least 15 per cent. of the total number of calories. There must be salts in the diet too, except for persons suffering from certain diseases for which salt-free diets are indicated. Iron is found in spinach, lettuce, asparagus, beans, peas, yolks of eggs and meat. Calcium is contained in milk, cheese, cauliflower, carrots, string beans, rhubarb, oranges and lemons. Phosphorus is contained in oatmeal, milk, cheese, spinach, lettuce, asparagus, peas, beans and tomatoes.

Here is a table of the number of calories per day that a 140-pound adult requires, at work or rest (*Rubiner*):

Rest in bed	1800
Repose	2100
Light work	2300
Moderate work	2600
Hard work	3100

In the late years the word "vitamin" has come into use. It is greatly misunderstood. Vitamin is an arbitrary word coined to express the life-giving or energizing qualities in food. Vitamins are certain substances which, it is known, are absolutely essential to normal growth and nutrition. Without them the proteins, fats, and carbohydrates and mineral salts, cannot properly perform their function as foods in the body.

More vitamins are being recognized or discovered all the time. Not long after the first class of vitamins, Vitamin A, was recognized, two more, Vitamin B

and Vitamin C, were discovered, and only very recently, has a fourth, Vitamin D, been definitely proved to exist.

The history of the discovery of vitamins is very fascinating. As early as 1897, it was observed by Eijkman that the disease beriberi, from which so many people in the Orient suffered, was due to the fact that these people practically existed on a diet of polished rice, and that this disease was curable by feeding the afflicted ones with the rice polishings. Eijkman, then, in conjunction with other brilliant men, set about to isolate that "certain something" which was in the polishings of the rice, which seemed to restore life to the diseased people. After much investigation, it was found not only that rice polishings contained this miraculous unknown something, which seemed to be absolutely necessary to life and growth, but that it was also contained in such important foods as egg yolk, butter fat, milk and cereal grains.

Vitamin A, which is fat soluble, is found in milk, cream, butter, cheese, eggs, liver, cod-liver oil, green leaves of plants, yellow vegetables, tomatoes and the germs of seeds. When Vitamin A is missing from the diet the effect on the system is pronounced. There is poor appetite, disturbed digestion, rickets, interference with reproduction, eye disease called xerophthalmia and loss of hair. The skin becomes sallow, pasty, flaccid, shows hives and itching.

Vitamin B is more widely distributed, being contained in many fresh vegetables and fruits, and also in eggs, whole cereals, liver, kidney and pancreas. It has been discovered that the lack of this vitamin in the diet is the cause of pellagra. The effect on the skin,

of a lack of Vitamin B in the normal diet, may be shown in dryness and sensory disorders.

Vitamin C is found in lemons, limes, oranges and other citrus fruits, in tomatoes, potatoes, cabbages and turnips. It is easily destroyed by heat, drying or aging, hence the foods in which it occurs are most valuable when eaten raw. The lack of Vitamin C for a lengthy time produces scurvy. The value of foods containing it, as being anti-scorbutic, was recognized long before the vitamin principle was known. Whalers and other ships bound on long voyages kept supplies of lime juice and lemons and potatoes aboard as preventives of scurvy. As a result of a deficiency of this vitamin in the diet there may be bleeding into the skin, and distinct hemorrhages are prominent symptoms. Irritability, lack of stamina and retardation of growth may be due to insufficient amounts of this substance, and there also results a susceptibility to infectious diseases.

Vitamin D, which was only recently discovered, is abundant in the liver of fishes, chiefly the cod-fish. Deficiency in this vitamin leads to a disturbance in the general metabolism of calcium and phosphorus, which is so necessary to the bone structure and the teeth, and is the most frequent cause of rickets in children. A very interesting fact here is that ultra-violet rays can produce the same effect on the bodily health and growth as Vitamin D; and as a matter of fact, children suffering from rickets, improve miraculously under the ultra-violet ray therapy.

There is the theory of the existence of another vitamin, which will probably be called Vitamin E. This vitamin is supposedly contained in lettuce, meat, whole wheat, rolled oats and milk fat.

A very essential part of the diet is water. It enters into the composition of every tissue of the body and forms about 60 per cent. of the weight of the average person. It helps to control the temperature of the body, flushes out the wastes of the body through the kidneys and skin, and is a factor in maintaining the proper concentration of the various elements in the blood and tissues.

Unless there are such diseases as failing heart, at least six glasses of water should be drunk every day. But water should be drunk between meals; because when taken with the food, it interferes with digestion. A good habit to form is that of taking one or two glasses of water before breakfast, one before each meal, and one at bedtime. Alkaline waters, such as Vichy, are often of value in treating common skin diseases, since they tend to counteract acidosis, which is at times related to some skin complaints.

Special diets are prescribed by the physicians for those suffering with metabolic diseases such as gout, obesity and defects in the glands of internal secretion. The difficulty with many of the special diets, particularly that for diabetes, is that most of the really nourishing foods have to be barred. Thus, almost any food the diabetic can think of is denied him, because it would cause acidosis.

A very recent development that should interest diabetics is a preparation of palatable wafers of intarvin, containing an odd carbon fat, which the late Dr. Max Kahn produced at Beth Israel Hospital in New York. Given in wafer form, intarvin supplies sustaining energy to the patient without causing acidosis.

Insulin, an internal secretion extracted from the pancreas gland, has changed the outlook for sufferers from that terrible disease, diabetes. The physician can now combat the disease without increasing the suffering of the patient by starvation. Banting, the discoverer of insulin, has not received a percentage of the gratitude the world owes him for a discovery which medical science has acknowledged to be one of the greatest scientific achievements of benefit to humanity.

Certain spices, condiments, alcohol, tea, coffee and cocoa produce a redness of the skin and permanent changes such as enlarged blood vessels, by their effects upon the intestines and the vasomotor system, or by direct irritation of the skin. Spoilt foods, especially shell-food and pork that is beginning to putrefy, form poisons which cause hives and blotches.

Individuals often show peculiar susceptibility in their reaction to certain foods, which produce on their skins various eruptions. They are said to have idiosyncrasies for these foods. The most common of these foods are eggs, strawberries, oatmeal and various meats. It is now possible to test an individual for his reaction to any food or any other substance. The skin is scratched, as it would be for vaccination, and a pure preparation of the suspected substance is applied. Ten or more substances may be tested at the same time. When the skin around the scarification swells or redds, the abnormal reaction of the system to that substance is proved. There are several hundred foods and foreign substances, such as pollens, dust, feathers, horse-dandruff, which have been found to affect individuals unpleasantly. This method is largely used also to determine the cause of an individual's hay fever.

In speaking of idiosyncrasies, it is well to call attention to the idiosyncrasies of some persons toward certain drugs. The dermatologist is always on the lookout for so-called drug eruptions. There are innumerable drugs which may produce these reactions. Among the most frequent offenders are: aspirin, quinine, the common headache powders and tablets, bromides, iodides, belladonna and many of the common cathartics. Phenolphthalein, the active agent of many cathartics, is a very common offender. The eruptions that these drugs produce are all sorts of lesions, spots, papules and pustules. Severe itching usually accompanies them. They may be of short duration, like eruptions of hives, or of long duration, and may leave discolored spots in the skin.

There are many special diets listed in books on the subject. One is given here, for constipation, as constipation is responsible for so many skin troubles. It is only a sample menu; many variants can be substituted for foods in the same groups:

Breakfast

Orange, oatmeal, cream, bran muffins or toast, bacon, eggs, weak coffee

Luncheon

Lamb chop, whole wheat bread, peas or beans, baked apple, tea

Dinner

Vegetable soup, beef, stewed onions, spinach, lettuce with French dressing, whole wheat bread, prune whip demi-tasse

Time and again it has been found that the basic cause of diseases of the skin is nothing but chronic

constipation. Before local treatment can be instituted, it is necessary to relieve the constipation and clean out the poisonous material that has accumulated in the bowels. A good method for accomplishing this is by means of a course of colonic irrigations. One of the best ways of performing this operation is the following:

First, clear the lower part of the bowels by an ordinary enema, with two quarts of hot water. Then with a large tube, clear the descending part of the large intestine with hot water until the returning water is clear and free from odor. The tube is introduced further and further until the whole of the large intestine has been cleansed. The patient lies alternately on the left side, the right side and the back, since the change of position facilitates the passage of the water and fecal masses.

For special indications various medicines are dissolved in the water. Bicarbonate of soda is used to alkalize, ichthysol is for antisepsis, and cultures of living bacteria, such as the bulgaricus and acidophilus, combat the action of the rotting and fermenting germs in the intestines. Such irrigations may be given once or twice a day for a week or two, and then decreased in frequency until one a week is given for a period of several months.

Internal treatment of constipation is also valuable. At the beginning of treatment for skin diseases citrate of magnesia, calomel and epsom salts are often given. When a laxative must be taken over a long period of time, vegetable cathartics, such as cascara evacuant, are valuable. The heavy mineral oils and agar-agar, together with abdominal massage and general exercise, are valuable in combating chronic constipation.

The best aid to the proper excreting of the kidneys

is plenty of water. Drugs that stimulate urinary excretion, the diuretics, should never be taken without the supervision of a physician.

The establishment of proper elimination is an essential of the treatment for acne. It is also necessary to avoid irritating foods. Acne patients should adopt a diet that is generally low in carbohydrates.

The patient should not take:

Starches, sweets, candy, cake, pie, ice-cream, pudding, jam or jellies.

Cereals, potatoes, foods made from flour, like noodles, macaroni or spaghetti.

Stimulants like cocoa, tea, coffee or alcoholic drinks. Hard foods, such as nuts. Indigestible foods, such as fried foods, gravies, sauces, spices or condiments.

The patient should take:

Milk, cream (sweet and sour) fermented milk, zoolak, fermilac, acidophilus milk or buttermilk. Eggs (not fried), vegetables—except potatoes and beets. Fruits except grapes and bananas.

Meat or fish once a day, but not spiced or fried. Soups without flour. No more than six slices of bread a day, preferably whole wheat bread. Cafefinless coffees. Plenty of water *between* meals, but *not with* them.

Many eruptions on the face are due to disturbances of the nervous system. Among these conditions are redness, rosacea, urticaria and chilblains. Abnormal func-

tioning of the glands of internal secretion produces such conditions as acne, with which may be present symptoms that indicate nervous affection as well: cold, clammy hands, stomach and intestinal complaints and other indications of vagotonia—the increased functioning of the large vagus nerve.

Such patients must be made to understand that they need plenty of sleep, relaxation, recreation, fresh air and exercise. But moderation is the keynote, especially as regards exercise. The theory that because some exercise is good, a great deal of exercise is better, is all wrong. There comes a point beyond which the benefits do not accrue, if, indeed, harm does not result. If a teaspoonful of Pluto water is beneficial, it does not follow that a quart of it will be fifty times as helpful. By the same token, a good brisk walk for an hour is a great treat to the body; but again that does not mean that five hours' walking will be five times as beneficial. Do not let the "health" magazines persuade you otherwise.

Too much exercise may cause an accumulation of toxins produced by fatigue, and interfere with the proper action of the heart, blood vessels and kidneys. The amount of exercise should be regulated according to the state of the vital organs. Exercise in the open air and sunshine, of course, is best. The best form of exercise for the average individual is a brisk walk on a sunny day—and not too long a walk. Golf is excellent exercise; but even that can be too strenuous for those suffering with heart and blood-vessel disease. Horse-back riding is excellent for its effect on many of the organs.

Too little exercise, on the other hand, is as bad as too much. It causes an accumulation and retention of the poisons which exercise would remove.

One thing to which too little attention is paid by the average person is the unnecessary strain of our modern daily life. Telephones, typewriters, automobiles and machinery, in general, have proved to be not so much labor-saving devices as incentives to more strenuous labor. The nerves especially suffer from the tension under which we live. It is difficult to understand why the average person craves the continuous stimulation of his nerves and reflexes. He spends his working day in office, shop or factory, beset by thousands of noises and sights which keep his nerves on the jump, and then he comes home to expose his nerves of hearing to the bray of a radio or a phonograph, or else he goes to a motion picture show to heap more fatigue upon his eyes. The nervous strain of driving an automobile ten blocks through city traffic is probably as great as our grandfathers underwent in a whole day of city life. Yet we go motoring for "relaxation."

It is too bad that people cannot learn that they must relax. We will not, seemingly cannot, rest. Even our play is strenuous and fatiguing. We are not satisfied with the fun of athletics and sports. If we cannot be champions, we become mere spectators. The English have by far the better idea. They do not care so much to excel as to indulge. For that reason Englishmen in their sixties have their game of tennis, while our champions burn out in their thirties.

And, the matter of sleep. Seven to eight hours ought to be enough for an adult. When that is not sufficient, it

is almost always because there is something wrong internally that makes us absolutely need more than the usual amount.

Massage and electricity are valuable stimulants of organs such as the intestines, and have a general tonic effect on the constitution. Bathing is very important. The cool shower bath on rising, followed by a thorough towelling, is excellent for those who react properly to it. Those with cold, clammy hands and those who feel cold instead of glowing at the end of a shower, would best omit the cool shower. A warm bath of about 100° Fahrenheit is relaxing and soothing and beneficial to the nervous system. The cold bath of about 70° is best for vigorous stimulation of those who do not suffer from heart, kidney and blood-vessel disorders.

Turkish and Russian baths are not as good as most people suppose. Very often they have depressing effects on the heart and blood pressure. They may cause kidney irritation by producing retention of solids, such as salts, in the blood, which eventually causes the formation of stones. Then the excessive irritation of the skin by the heat and excretions may cause itching and eczema.

Extracts of the glands of internal secretion are employed for their general effect as well as for their almost specific action on some of the skin conditions. Extracts of thyroid, adrenal, ovary and pituitary glands are those most commonly used. Thyroid extract is used in treating facial conditions, such as acne vulgaris (pimples), myxoedema, which is due to a deficiency of thyroid secretion, scleroderma with its mask-like expression of the face, chronic eczema and other conditions.

Adrenalin is of the greatest value for treating hives. It is useful in treating other affections of the face such as redness.

Ovary extracts are employed in treating numerous conditions, especially those associated with the climacteric, or change of life, with its sweats and flushes.

Gland therapy as a whole is yet in its infancy, but undoubtedly in time it will be a most important branch of medicine. It is certain to affect our pharmacopœia, and already it has displaced many drugs of hoary antiquity.

There are many other substances employed for their general, as well as local, effects. Their use is mainly by injection. Tuberculin is used for diagnostic as well as therapeutic purposes for conditions caused by or associated with tuberculosis. Vaccines are used with great benefit where there is an infection of the skin, as in boils or folliculitis. Once it was thought that vaccines worked by virtue of a specific destructive action of the germs. Now it is recognized that the action is non-specific. The vaccines produce protein reactions in the general system as well as in the diseased tissues. The cells of the body are thus stimulated to destroy the harmful agents. Besides vaccines, there are other sera and foreign proteins such as blood and milk which are used for the same purpose. Injections of turpentine are useful for chronic and obstinate inflammations and for infections such as boils and ringworm.

Various drugs are given internally for their constitutional effect. By acting on the constitution they aid the body to remove abnormal tissues in the skin and destroy bacteria and their poisons. They include arsenic, iron, quinine, salicylates, alkalies, cathartics,

diuretics. Drugs such as arsphenamine, iodides, mercury and bismuth are extremely valuable for their action on specific diseases such as syphilis.

Laboratory tests are extremely helpful, indeed necessary, in making the diagnosis of the disease, by determining the chemical composition of the blood and other bodily fluids. High sugar content may indicate diabetes or may be associated with itching, boils, carbuncles and folliculitis. High content of uric acid in the blood and urine also accompanies hives, itching, and eczema. Excessive cholesterol is frequently discovered when a patient seeks treatment for xanthomas of the eyelids. These little eruptions may put the doctor on the track of a serious gall-bladder ailment. Analysis of the stomach content may show deficient acid, which is frequently the cause of rosacea.

From all this it should be plain that a thorough medical investigation is necessary for one who desires to receive treatment for facial affections. It is only the physician who knows when a sore indicates the need for a Wassermann test for syphilis—and how to interpret the findings of such a test. The physician it is who can tell whether or not a small growth on the face means an internal growth which the X-ray later will reveal. Only the physician can save the patient from the quackery that prescribes "skin foods," when the dryness of the face may be due to insufficient thyroid functioning, and when proper internal treatment will not only improve the appearance of the skin, but build up the whole health of the patient.

CHAPTER III

DAILY CARE OF THE FACE AND COSMETICS

IF everybody in the world had perfect health, everybody would have a good complexion. Some would be better than others; but all would be normal. A good complexion is a normal one—a natural one, intended for the individual by Nature.

But not everybody would be satisfied, by no means. Another and a greater miracle would have to occur before humanity snuggled down into cosmetic complacency. A certain standard of beauty would have to be changed—and it has not changed in the lifetime of man, or rather, of woman.

There are two ways to have a satisfactory complexion—grow it, or buy it. Most women prefer the latter. Most men prefer not to bother.

The very earliest savages daubed themselves with some sort of clay or dye. The very earliest civilizations liked their women painted—Egyptians, Cretans, Greeks, Romans, all of them. And not one modern woman in ten would leave her complexion alone, if she had a naturally perfect one.

Because the standard calls for artifice. A healthy, ruddy glow must be whitened. A naturally pale skin must be reddened. A skin that is normally olive—anything may be tried, but the usual result is a neat blue.

There may have been a time when women tried, with cosmetics, to imitate normal complexions. but that time was quickly over. "Painted Woman" has only an archaic significance. The idea now is not to have a complexion that on any but close inspection looks normal. Instead, the face must be fishy white where it isn't tomato-can red. There is no attempt to conceal the fact that powder and rouge are used. The powder must show, the rouge must stare in geometrical designs. Probably few women deliberately plan all this; they are merely aiming at the standard.

From a technical point of view this lavishness with puff and stick is all wrong. The real purpose of cosmetics is to bolster up a poor complexion, to remedy little faults here and there, and no more—decidedly not to give the show away. Since perfect health exists only in the first paragraph of this chapter, there is a real need for cosmetics; and there would be, even if the other miracle happened and a complexion that looked natural were to become the ideal.

It is not easy to say what is a good complexion. It is far easier to set forth what makes a complexion bad. But a normal skin is neither too oily nor too dry; it is smooth, has a healthy texture and feel, shows neither scales, blotches nor eruptions. If we limit ourselves to Caucasians, it may be various shades of pink, white or that combination which we call olive. It may be all these desirable things and none of the undesirable things, and it will be a normal complexion. But it will not be a superlative complexion, unless it has something in addition—and that something is hard to describe. Clearness expresses it best, perhaps. There must be a translucence, as though the flesh were dimly seen be-

neath the skin. Compare a piece of tallow jade and a fine porcelain; the translucence of the porcelain is something like that clearness of the really good complexion. No artist in rouge can duplicate it. Fine health is the secret.

The purpose of this chapter is not to go into detail about cosmetics, other than to list them and their uses. That is not the dermatologist's job. The purpose is rather to explain the rational external hygiene of the normal face, and the manner in which local measures keep it normal and free from disease—the daily care, in other words. The procedures here related are those accepted as the scientific best for maintaining what the person of average intelligence and good taste calls a good normal complexion.

The absolutely normal facial skin is extremely rare. If anything, it is becoming rarer. The face is exposed to the elements; it is a catch-all for dirt and soot; it is covered by secretions from oil and sweat glands, and by the scales that are constantly being shed by its horny layers. There are always plenty of bacteria on the face, waiting to enter the pores and start infections.

The bacteria have a much better chance, if the face is dirty. They literally thrive on dirt; and their infections produce the variety of pimples and boils and spots and blotches that are collectively called eruptions or lesions. To fight these bacteria and prevent their infections it is necessary to resort to chemistry.

The best chemical for this purpose is water. It surpasses any other agent for preserving the health and the beauty of the face. Not only does it cleanse the skin, but it stimulates it. It removes the scales, oil, sweat, dust, soot and bacteria. It stimulates the cells of the

skin to function so that they remove obnoxious matter from the body. It softens the skin and makes it pliable.

The tonic of water makes the blood vessels open and close properly, so that they give the skin good color, regulate the temperature and aid in the process of excretion. The sweat and oil glands are stimulated to perform their work of refrigeration and lubrication better. The muscles under the skin are so affected that they contract, and make the skin smooth, firm and velvety. And the tonic makes the skin "harder," so that it lends the body better resistance to attacks from without.

The best water for the skin is that which is called "soft." That means it is free of calcium and magnesium carbonate. If the only water available is "hard," it can be boiled or softened by adding a little borax or bicarbonate of soda. Rain water or distilled water may be used instead. The objection to hard water is that it frequently irritates the skin. The chemicals in the water itself may not be at fault; but they tend to curdle the soap, and this makes it so difficult to remove the dirt that extra friction is necessary, and the result is irritation.

Water that is cool or cold is the tonic. It first causes a contraction of the skin generally, and then, when the reaction sets in, there is a relaxation to normal color, texture, gloss, smoothness and firmness. Warm or hot water is better for cleansing and for relaxing.

Obviously, then the way to wash is to use warm or hot water first, and then cold. The former opens the pores, the latter closes them.

While warm or hot water cleanses the skin, there

is such a thing as too much of it. It removes not only the dirt, but the normal secretions of the skin—the oil and sweat, which prevent it from drying too much. Too much hot water on a skin makes it dry and inelastic; it chaps and cracks easily. Hot towels, steam and too frequent Turkish or Russian baths irritate and injure the skin by causing an over-relaxation. There is little, if any, value in most of these complicated treatments. It is impossible to say how often the face should be washed, of course. That depends on such factors as the individual's environment, occupation and type of skin.

There is probably no more persistent illusion than that which holds that oils and creams—anything, in fact—are better than water for washing the skin. Not a few women are so obsessed with this notion that it practically amounts to a hydrophobia. They firmly believe that their skins cannot stand water. With few exceptions they are the same women who think their hair should not be washed oftener than once a month.

Only skins afflicted with certain diseases are harmed by washing with water.

Only the hands, soft wash-cloths or sponges should be used in washing the face. Sponges are especially excellent. But they are difficult to keep clean and may carry infections. They should be kept sterile by boiling in water that contains a small amount of soda. It is a good practice to wash the face two or three times during the day with cold water, and to wash it with warm water followed by cold water at bedtime. After washing, the face should be gently but thoroughly dried in a warm room with a soft towel. If the skin is par-

ticularly dry, the washing should be less frequent. If it is greasy or easily irritated, fine rice powder or talc may be applied after drying.

There are various substances which may profitably be added to the washing water. Borax softens the water, soothes irritated skin and is slightly antiseptic. Greasy and relaxed skins—those which sag and have over-large pores—are smoothed and softened by washing in distilled water to which has been added a very small amount of astringent, such as fluid extract of rose, lavender or orange. If there is a general redness and the blood vessels are beginning to be prominent, camphor in the water is valuable. Glycerine in water softens, smoothes, moistens and protects the skin. It should be used in small quantities, however, as it causes irritation when concentrated. Alcohol is sometimes used to cool and dry the skin and keep the other ingredients in solution.

These preparations are just about all there is to most of the expensive, highly advertised and perfumed and colored toilet waters. As a rule they are refreshing and of some benefit. But too much is claimed for them. And they irritate some skins.

Toilet vinegars are another popular preparation. They are mild astringents which may help to overcome redness of the face. They contain dilute acetic acid (vinegar), and are no more beneficial than vinegar and water mixed in the kitchen. But coloring matter and perfume are added to the bottled preparations, which make them pleasing to the eye and the nose and provide an excuse for charging high prices. Such preparations should be used well diluted in luke-warm water.

Bran, oatmeal, almond oil, starch and gelatine are

often added to washing water to soothe and tone the skin.

Those who think that water hurts their skins use milk, if they do not merely rub grease or cold cream into their pores. Milk is no substitute for water. It has a soothing effect; but if it is not washed away with water, it becomes a rancid lure for germs and dirt. The dermatologist sometimes has patients who admit—frequently boast—that water has not touched their faces for years, and that they have used milk instead. As might be expected of such a foul habit the result is a muddy skin, dirty and covered with crusts and infections.

Tar, sulphur and salt are skin stimulants. They are occasionally used to rouse sluggish skins. Peroxide on the skin should be employed for bleaching purposes only, and should be used fresh and very dilute.

In combination with water, soap is the most valuable agent we have for keeping the skin of the face normal and healthy. Soaps are chemical combinations of fatty acids and alkalies. Mixed with water the alkalies are set free to attack the grease on which they are rubbed. The strength of a soap, therefore, is determined by the amount of alkali it contains. The more alkaline the soap, the more energetic its action. It causes the cells to swell and soften. If the alkali is highly concentrated in the soap, it may dissolve the cells and produce an irritation characterized by redness and swelling and dermatitis.

A soap of quite weak alkaline content may be harmful, however, if the fatty content were rancid when the soap was made, for rancid fats are irritating to the skin.

The quality of a soap, therefore, depends on the type of fat used in its manufacture. Lard, rosin, tallow, cocoanut oil, olive oil, castor oil, palm oil and lanolin, a product of wool fat, are some of the substances used in making soap. The vegetable oils, especially if salts and impurities have been removed by the centrifuge, make excellent soaps. Cocoanut oil makes a white, transparent soap that forms a thick lather and makes the skin feel smooth. It easily decomposes and becomes rancid, however, and then it may irritate the skin. Castile soap is made with olive oil. Liquid soaps are usually solutions of cocoanut oil in water or alcohol. Transparent soaps contain rosin dissolved in alcohol, with castor oil added to increase the transparency, and are dried and seasoned by long aging. Most of the advertised shampoo creams and jellies are soaps containing an alkali such as ammonia. Their action is similar to that of ordinary soaps.

Hard soaps contain soda, while soft soaps contain potash. Laundry soap and many of the commercial toilet soaps contain soda. The most active of all soaps is green soap, *sapo mollis*. It is a potash soap, containing alkali in great concentration. It is used to destroy the cells in hard skin growths and thickenings of the skin.

The best soap for the face is a neutral soap. It should contain no more than one-fourth of one per cent. of free alkali, be made with good fresh oils, cleanse without irritation and have a fresh color and odor. Overfatty soaps are the mildest and least irritating. They are made by overcoming the action of the alkali by means of about four per cent. of lanolin. They are used on highly irritable skins.

Good soaps usually contain 20 to 30 per cent. of water. As they age the water evaporates and they harden. Transparent and Castile soaps contain more water—25 to 30 per cent. Only the very best transparent soaps are recommended, and they are quite expensive. The other transparent soaps contain irritating alcohol, glycerine or sugar, as well as too much alkali. Floating soaps contain large amounts of water. Air is stirred into them during their manufacture, and is responsible for their whiteness as well as for their buoyancy. Good soaps are usually of a creamy white color. Dirty yellow soaps and flat soaps without translucency are usually impure.

Regardless of price, the very best soaps to choose from are the well-known brands put out by the big manufacturers. For the average skin they are all that could be desired. Castile soaps are perhaps as good as any other type; but frequently their claims to great superiority are exaggerated. The fancy soaps, perfumed and medicated, done up in expensive packages and given deceptive names are not worth consideration. Their claims as cure-alls, because of their medication, are exaggerated.

It would seem that soap should be an excellent vehicle for medication. But, in practice this does not work out. Medicated soap accomplishes nothing that a plain soap does not accomplish. Instead, the chemicals sometimes irritate the skin. Hence, some soaps that claim vast healing and soothing properties are used instead to irritate and thus remove infections and thickenings of the skin!

There are cleansing preparations other than soap on the market. Some of them are very good, if they do

not contain too much alkali. As a rule they are made from glycerine, soap bark and oil of tragacanth.

The usual method of using soap is to rub it on the skin, with water, until a lather forms and then wash off the lather. The action is increased if the lather is rubbed in and allowed to dry. Where an extremely stimulating action is desired, the lather may be covered with impervious material such as a towel or a bandage.

Skins that cannot tolerate the mildest soaps may be cleansed by means of fats or oils. When rubbed on the skin they combine with and saponify the fat, grease, fatty acids and sebum from the fat and sweat glands. These excretions become suspended in the fat or oil and are removed with it.

Oils or fats cannot be used promiscuously and exclusively for cleansing the skin, however. They are not sufficiently efficient, and they easily become rancid enough to irritate the skin. They are especially harmful where there is already an excessive amount of oil on the skin, as in diseases of the sebaceous glands, like acne. They make such conditions worse, predispose to infections and obstruct the pores.

They are of great value for too-dry skins, however. They make such skins softer, glossy, smoother, and remove the scales. They also form a thin coating on the skin which protects it from such externals as sun and wind, catches dirt and bacteria, and thus protects against infections, providing it is frequently removed by washing. Another element of protection is the prevention of too rapid evaporation.

These same beneficial properties, however, may cause trouble by making the horny cells swell, damming back

the moisture of the skin and retaining the heat—with a resultant redness and irritation of the skin.

Frequently preparations of such oils or fats are advertised as skin foods. It is true that when they are rubbed into the skin they liquefy and are somewhat absorbed, especially through the blood vessels in the follicles. But this never results in sufficient absorption to present the skin with any appreciable quantity of fat. And the fat would not be nourishment, even if there were much of it. As has been explained several times in this book, the skin is nourished by the blood—and not by perfumed grease, no matter how expensive. "Beauty doctors" say otherwise, because grease—of both the perfumed and elbow variety—is all they have to sell.

The most commonly employed and best fats are lard, tallow, petrolatum, vaseline, lanolin, cocoa-butter and wax. Lard and tallow are usually mixed with benzoin to prevent rancidity. Lanolin does not become rancid and favors absorption through the skin; but it may cause irritation. Cocoa butter is used in many pomades because it melts at body temperature. Wax is used in cold creams to give them greater consistency—without it they may be semi-liquid or too soft. The oils most frequently used are olive oil, oil of sweet almonds, cucumber oil, sesame and castor oil.

These fats and oils are used in a number of forms, differing in consistency and in the proportions of their constituents.

Brillantine is an oily mixture in glycerine or alcohol, with a perfume added. It is used on the face for the beard and moustache, to lubricate the hairs and make

them lustrous and pliable. The proper use of brilliantine is to replace deficient sweat and oil secretions from the glands. Used constantly for a long time, however, brilliantine causes increased dryness and brittleness of the hairs.

Salve is the collective term for a variety of preparations of fat—ointments, creams and pastes.

Ointments consist almost entirely of fat. Certain drugs in small amounts are added for specific purposes. Salicylic acid, for example, dissolves thick scales, sulphur destroys skin parasites, tar stimulates, menthol cools and so on. The fat covers and protects the skin, decreases the excretion of fluids and their evaporation, and thus causes a swelling and redness—signs of stimulation. As a result there is a greater penetration and absorption of the drugs contained in the ointment.

Creams are salves that contain water. They are the best of the salves for ordinary toilet use. The fat covers the skin. The water in the cream evaporates. The cream then absorbs water from the skin, especially if there is inflammation, and thus the skin is cooled. That is why they are called cold creams. Many of them contain anhydrous lanolin to aid in taking up water from the skin. Wax is added to make them firmer. Since they tend to become rancid, it is necessary to add to the fat and water a mild antiseptic such as boric acid, while some such perfume as rose water is added for æsthetic purposes.

The chief uses of creams are to cleanse, to protect from external irritants, to supply oil and fat where the natural excretions are deficient, and to carry into the skin certain drugs. Creams are best used at bedtime. The skin should first be washed with soap and

water and dried thoroughly. The cream should then be rubbed in with clean fingers or a soft towel. In the morning it should be washed off. Such procedure will make a rough, dry skin softer and more pliable.

So-called vanishing creams are made like cold creams, but instead of fat they contain such substances as tragacanth, glycerine, or sapolan. They fulfil much the same functions as cold creams, but they do not feel greasy and are more easily wiped away or washed off than cold creams.

Many of the creams are really glycerates which are made with glycerine and wheat starch, to which saponaria and oils, antiseptics and perfumes are added. Glycerine is a clear, colorless, syrupy fluid that is used either pure or combined with water or other substances. It makes the skin soft, smooth, and lustrous. It is also used for chapped and cracked skin, and for the red, scaly patches of seborrhea. It is an excellent non-drying solvent.

Pastes are combinations of fat and powders. There may be as much as fifty per cent. of powder in a paste. Pastes combine the action of the ointment and the powder. The fat protects the skin, promotes absorption of heat and water and aids penetration of medicaments. The powder causes greater evaporation, with increased coolness, takes up fluids from the skin, prevents damping back of the fluids and reduces congestion. Pastes are applied by spreading them gently on the skin, or on linen or lint. In general they are very soothing.

These ointments and pastes, and in fact most other cosmetics, are far from new in principle. We have more and perhaps finer cosmetics than our ancestors, but they managed to struggle along rather well with

what they had. Our grandparents used mutton tallow and goose and bear's grease, melted with pine needles or cedar chips, for pomades, brilliantine and cold cream. Belles of the 'sixties rubbed their faces with such unguents before they climbed into their four-poster beds for their beauty sleeps; just as belles have been doing for 3000 years, anyway.

When the tomb of Tutankhamen was opened recently, a jar of carved marble was found and in it was a substance that, when analyzed, proved to be 90 per cent. of animal fat and 10 per cent. of rosin of cedar or pine. Whatever they may have used later, the Egyptians of that day preferred animal fat to the oils of palm nut and olive.

Face powder is an important adjunct to the daily care of the face. It protects the skin from external irritation, keeps it dry and conceals bad coloration. The action of powder arises from the coat which it forms on the face. The microscopic granules of powder afford increased surface for heat radiation from the skin. This increased radiation and the capillary attraction which the powder exerts to remove the fluids quickly cool the skin. The blood vessels of the skin are contracted and congestion is reduced. Powder is, therefore, valuable not only for protecting, cooling and drying the normal skin, but also for reducing inflammation.

Face powder is used alone or in preparations such as lotions and pastes. The more common powders are of starch, wheat, rice, potato, zinc oxide, zinc stearate, zinc carbonate, talc, boric acid and kaolin. They vary in their capacity for taking up water from the skin. The finer powders are less drying than the heavy, but they are not so irritating. They have a healing tend-

ency when the skin is irritated from the wind or from shaving.

Some powders, especially those of starch, cake when mixed with sweat, and may decompose and so irritate the skin. Obviously they must be washed off frequently. Starch powder is often mixed with talc or chalk to make it whiter. Violet powder is made of starch with a little powdered orris root.

Thick coats of powder are sometimes spread on the skin when there is an inflammation. If powder of any sort is used too frequently or allowed to remain on the skin—especially in a caked condition—there may be a hurtful loss of gloss, together with a roughening of the skin, a clogging of the sweat pores and oil follicles, and eventually infections and pus formations.

Few women realize the danger of eternal powdering. The fact is, such powdering becomes a habit. They complain that they feel uncomfortable without a generous coat of white, especially on the nose. Then they are mystified at the eruptions that not even more powder can conceal. But there is hope; some progress has been made—no woman with any pretension to daintiness uses any other woman's powder puff these days.

As has been said, powder is a great factor in the daily care of the face. But it must be good powder. Some widely-advertised powders contain metals such as lead, bismuth, arsenic and mercury—for coloring, principally—and these are very definitely injurious to the skin and may produce metallic poisoning.

Lotions are preparations of a fluid containing powder. They must be shaken before using. Then they are spread on the skin and allowed to dry. The fluid, evaporating, cools the skin, and the coating of powder which

it leaves continues its action and so soothes both normal and inflamed skin. Lotions are usually applied with pledgets of wool or cotton, or are painted on with fine brushes. Many lotions are flesh colored. Any good lotion is effective on the excessively greasy face. Some are made the consistency of cream by the addition of tragacanth.

Some people still use dyes and paints on their faces. Their use is worse than foolish; they are extremely harmful, not only to the face, but to the whole constitution.

There are numerous drugs for specific facial conditions. None, however, should be used without a physician's supervision, as inflammation and even scar formation may result from misuse.

Next to the "skin food" delusion, the facial massage obsession is probably most widespread and persistent of the many half-witted notions which beauty hysteria has fastened upon us. It would be interesting to know how many women have their regular "facials," and how much it costs them each year. (Men are not far behind, though barbers say that massages are ordered less often than formerly.)

Massage and various creams and lotions make up the innumerable "courses" which "institutes" all over the land are handing out for the gold of their wistful, willing clients. Very elaborate are some of these courses of treatment—very elaborate and very solemn, almost ritualistic. It would not do to rub in some sort of cold cream and then wipe it off; Madam or Milady, or whatever she prefers to be called in the advertisements, could do that herself at home. Hence the invention of the ritual and a lot of unconsciously humorous names.

First, a lemon of peroxide cold cream is rubbed in, according to a typical liturgy. (Incidentally, there is a long and careful discussion as to whether lemon or peroxide best suits the individual then under treatment.) Then it is rubbed off, various hot and cold towels are slapped on and off. More cream is applied, more hot and cold towels, and so on.

Following this the great "skin beautifier" is reverently applied. The beautor—if that is what the masseuse is called—rubs in this costly unguent with somewhat mystifying motions, and then asks if it tingles. If it does, the skin needs more of the same, and gets it. After which an astringent face lotion is dramatically applied, followed by the skin beautifier and the institute's special powder and rouge. If the devotee admits to wrinkles, there is a special wrinkle cream.

Certainly a thorough course in skin-greasing—and a justifiable expenditure of half a morning and ten dollars, if each of the preparations had special and unique virtues. And, on the way out, an "over-night" cream or lotion or what-have-you is sold to the happy customer to complete the treatment.

Unfortunately, they are all the same, except for differences in color and odor. Just grease.

Even the elbow grease with which they are applied is of no value. With unbelievably few exceptions, massage can do nothing to produce or preserve a normal facial skin. It is of absolutely no value for sagging and relaxed skin or for removing wrinkles.

But who will believe that statement, when a "facial" costs so much?

On the other hand, massage is very often harmful, especially if there are pimples or pustules. With con-

THE CARE OF THE FACE

ditions like acne, massage makes the infection worse and spreads it.

As to wrinkles, an understanding of their nature will prove that massage could not possibly prevent or remove them. The skin normally takes its tone from the skin muscles. There is a layer of fat which gives contour and smoothness to the face. With it is fibrous tissue for holding moving parts of the skin.

Advancing age or wasting disease causes a loss of fat, a relaxing of muscles and a shrinking or atrophy of the fibrous tissue.

The skin then becomes lax, falls into grooves and ridges, and wrinkles are formed. Wrinkles also result from constant contraction and relaxation of the facial muscles, such as those about the mouth and eyes. They are more likely to show on persons of a nervous tendency, whose expression changes more frequently than on persons of a stolid nature. Sometimes premature wrinkling is hereditary. Usually wrinkles are simply a sign of advancing age, and cannot be prevented by external drugs or massages.

It should be obvious that when age or illness has atrophied the tissues, dried the fat and loosened the muscles, no amount of manipulation can renew them. Only a return of health can do that—an impossibility, if old age is the cause.

To prevent premature wrinkling, maintenance of good general health is the only really worth-while measure. There must be a good pad of fat and good muscles. Habitual frowning and other wrinkling expressions must be overcome; sometimes eyeglasses are needed, sometimes nervousness must be cured.

Cupping the skin and proper massage occasionally

bring about an improvement in the muscle tone. But the actual results of these measures in preventing wrinkles is psychic; the patient thinks that she feels so much better that she does not wrinkle up her face!

Nor can there be such a thing as a "wrinkle cream." No external fat is going to creep under the skin and lie there and puff out the face till the wrinkles disappear, just because a beauteor rubs it in.

The injection of paraffin to obliterate wrinkles is utterly condemned, of course, as a very dangerous practice. It is referred to in the chapter on Quackery.

Whether or not the daily apple repels the doctor, sufficient sleep and cold water, fresh air and some exercise, will just about keep wrinkles away for the longest time. Astringents and exposure to ultra-violet rays may help as tonics.

There may still be people who decorate themselves with masks and mud and clay packs. For those who do not care to read more about them in the chapter on Quackery, it is herewith set forth that they do no good whatsoever, and may do harm!

To sum up, it should be stated that cold does more for the face than heat. Cold gives better tone, color, texture, secretory function and firmness. Heat helps to cleanse; but too much brings on a general relaxation and loss of tone. Hot applications should be followed by cold ones. The maintenance of local cleanliness, good constitutional health and the sparing use of good cosmetics—these are the things that can give to everyone what nature intended him to have, a good complexion.

CHAPTER IV

QUACKERY

CROOKS always attack weakness. The burglar looks for a broken lock, an open window. The blackmailer fastens upon his victim's indiscretion. The confidence man selects the morally weak to lure into shady schemes, so that they dare not complain when they have been double-crossed.

So with the quack. Only there are more weaknesses for his crookedness to prey upon. He has a far better craft than the burglar or the confidence man—safer, more profitable, quite respectable, often.

Innumerable weak spots await the quack—illness, misfortune, poverty, vanity, ignorance, gullibility. Disease opens the window for him. Vanity plays into his hands. Fear of ridicule stops pursuit. His victims are too helpless to get redress, too poor to prosecute, too ashamed to complain. Few laws hamper him. Quackery flourishes.

“Diseases of Men” used to be the greatest field for quackery. Today it is “Beauty Culture.” The idea that anything is possible if it costs enough has become an obsession. Any sort of wild statement is believed, if it is about an expensive ounce of trash. It is part of our hysterical yearning for the royal road. We expect to acquire all sorts of learning and skill—languages, manners, saxophone virtuosity, channel-swimming—in ten

easy lessons by mail. Then why not beauty? Not by mail, but by applications of beautifiers—better still, by a course of treatments at a beauty institute.

Why not? Do not magazines advertise them? Do not prominent people endorse them? Are they not pleasant-smelling? And expensive?

That "course of treatments" sounds thorough. That "institute" has a scientific tang. Why rub beautifier into your own face? Expert "beautors" do it better. It costs more. It must be good.

Hence American women are spending \$117,000,000 a year for beautifiers, and unwrinklers, and unfrecklers, and cosmetics of various sorts. A vast amount of the stuff that \$117,000,000 buys is absolutely worthless. Almost as much is actually harmful. It is causing thousands of cases of poisoning every year.

The American Medical Association, the national organization of 90,000 ethical physicians, set a special committee to work last year to investigate this question of cosmetic poisoning. They confined their work to cases positively traced to the use of face bleaches, face powders, toilet waters, deodorants, depilatories, rouge, mouth washes, dye removers, hair dyes, and hair tonics. The committee has not finished its work yet. But it has found already that every skin specialist in the country receives cases of skin poisoning or irritation caused by cosmetics.

The preparations that do this damage contain highly dangerous substances, of course. But there is nothing on their labels to show it. Patent medicine manufacturers are required by law to label their products with a list of ingredients. The manufacturers of beauty preparations should be forced to do the same thing.

Some of these ingredients cannot be sold for this purpose in European countries; here there is nothing to prevent their distribution.

Of course, not all cosmetics are harmful. And, as this book points out, many are valuable adjuncts to the daily care of the face. But they are not what the makers of many of them claim they are.

Any physician knows that all a face cream can possibly do to help the complexion is to cleanse the skin and make it more pliable. The simplest knowledge on the part of the layman would tell him the same thing.

Yet in New York City alone there are 1700 beauty shops and "institutes" selling, without a smile, "skin fresheners," "face moulding creams," "balsam tissue astringents," "rose leaf cleansers," "skin fatteners," "skin thinners," "skin foods," "wrinkle removers" etc., etc. *ad nauseam*—to say nothing of the shops in other places and the manufacturers that advertise their wares nationally and distribute them by mail or through stores.

Anybody can be a beauty specialist, can run an institute or bottle grease and sell it. Some states impose examinations and licenses; they accomplish nothing. The cosmetologists, or beautors, or whatever they call themselves can also call themselves dermatologists—a term that should be limited to physicians specializing in diseases of the skin. The classified telephone book of New York, the "Red Book," lists any and all of these suddenly-scientific gentry as "dermatologists." Incidentally, that same publication lists under "Electrolysis" a superfluous hair "institute" which uses not the electric

needle but an advertised depilatory powder that cannot possibly remove hair permanently.

This does not mean that all beauty specialists and manufacturers of cosmetics are either ignorant or unscrupulous. Many of them claim nothing more than the truth for their wares; many really believe what they say. Many barbers sincerely think that singeing stops hair from bleeding.

Miracles made easy! Suddenly, out of the clear sky, a beauty specialist appears who can do in ten days what no scientist in the world has been able to do in thousands of years.

Some of these drugs and lotions and flacons of lard are harmless, and contain only a mild antiseptic—just as so many patent medicines are merely cathartics—or they may be plain massage alcohol. But they could be sold with reasonable profit at fifty cents, minus the carved container and the gilt paper and the advertising.

Others, however, are extremely destructive. Many of them contain corrosives such as mercury—almost all freckle creams are guilty. Ammoniated mercury, a caustic poison, is often used. Poisonous dyes are frequent.

One concern advertises a line of creams, balms, mole and freckle lotion, and face cream. As far back as 1902, the Massachusetts State Board of Health found that the first three products contained the poisonous mercury salt, corrosive sublimate. In 1925, the laboratory of the American Medical Association found the same poison in the face cream. New Hampshire state chemists reported the havoc wrought by this ointment.

A widely-advertised freckle ointment was sold under

the claim that it "positively removes freckles and tan," and that "there is positively nothing injurious in any of our preparations." United States Government chemists found that it contained a caustic poison, mercury.

A greaseless peroxide cream, so labelled, claimed to do everything wonderful for the skin. In the first place, peroxide does not do everything the manufacturers would like it to do, and in the second place, the Government chemists found no peroxide in the preparation.

Dr. Somebody's Flesh Food, advertised to build firm, healthy flesh, remove wrinkles and develop the bust, was found by the American Medical Association laboratory to be no better than, if as good as, five parts of vaseline mixed with four quarts of starch and a dab of zinc oxide.

Another preparation claims that it gets rid of pimples, blackheads, acne, barber's itch, blotches, freckles or any other blemish. The advertisers also recommend it for chilblains, soft corns, poison ivy, insect bites, fever sores, body odors, oily skin, sore lips, sunburn, tired feet, warts—and no doubt for flavoring soups and icings. Analysis shows it to consist principally of wool fat and casein.

Depilatories make tremendous claims. "Three treatments and the hair never comes back." "It's never gone till it's out"—etc. Not one of them can remove hair permanently.

Complexion clays and mud packs are still going strong. If you believe their advertisers, they do anything you wish for your complexion—give you a fat face or a thin face, dark or light skin, close pores, prevent wrinkles, anything. Obviously they are the result of years of scientific research and experiment on the

part of a "fashionable specialist." "They open the pores to breathe, and the face blooms and lives."

Five of these brands of mud were examined by the American Medical Association chemists. They reported that essentially they were mixtures of clay and water. Advertising sold the cheapest of them at \$1.00 a small jar. Nobody ever thought of selling mud before.

The Association is doing what it can to expose these fakes and their advertisers, chiefly through its magazine for laymen, *Hygeia*. But the victims refuse to be rescued. They buy in the face of any warning.

The most brutal quacks are those who pretend to cure hypertrichosis—superfluous hair. Their victims are all more unfortunate than the woman who has a fairly good complexion or only a minor blemish such as freckles. Usually their victims are extremely poor and ignorant. And worst of all, their treatment may make the victim's face a mass of sores and scars and blotches that last for life.

If they use chemical depilatories the least that can happen is the return of the hair—just a plain swindle. If they destroy it permanently, health goes with it.

Many such scoundrels use, in one guise or another, X-ray therapy. Physicians everywhere have known for years that hair can be destroyed by means of X-rays, which, in proper doses, destroy the hair and its follicle. But other cells of the skin are being destroyed, too. Within two months, or perhaps even two or three years afterward—outside the legal statute of limitations, sometimes—the skin becomes red, crusted, inflamed and eventually atrophied. Wrinkles and streaky blood vessels develop. Later in life come warty and scaly growths that may ulcerate and become cancers.

Glands of the mouth and throat may become affected. Life itself may be shortened by several years—and at any rate it has been ruined. Such treatment should be condemned absolutely!

In another chapter the advertisements of one of these quacks is described—how he warned against the use of X-rays, and claimed to use only Roentgen rays (another name for the same thing).

Electrolysis is the only safe way to remove superfluous hair permanently. It is the introduction of the needle into the hair follicle, so that the galvanic current can destroy the hair and the follicle. It is a difficult and tedious operation, and somewhat painful, but when performed by a skilled technician, it is safe and permanent.

Judging by their advertisements, a great number of depilatories are being used. They may not be harmful, but none of them is permanent. Usually they contain barium sulphide and calcium and sodium hydrate. They are applied in the form of a paste, and allowed to remain for some time. When removed the hairs come with the paste. It is impossible to destroy the hair-producing cells by means of this chemical.

By continued use the skin may become irritated and develop eczema, and very likely the succeeding hairs will be thicker, coarser, more numerous and more prominent. The lanugo—the fine, downy hairs—also may become coarser.

Other depilatories do not remove but merely bleach. Pumice stone is another ingredient of some depilatories. The stone merely serves to rub off the hairs.

In time it is possible that an X-ray technic may be devised which will permanently destroy hairs without

injuring the skin. But that time has not yet arrived; and at present it is a highly dangerous method.

There are circumstances that make it seem advisable to dye the hair, of course. Professional people argue, with reason, that their careers depend on their youthful appearance, and that prematurely grey hair is ruinous. If they choose to dye their hair, they should at least know what chances they are taking.

Dyes may not only injure the skin, but may spread their poison and inflammation to other parts of the body, such as the kidneys. Hair oils darkened by walnut extract are the least harmful. Silver nitrate and pyrogallic acid, used frequently to obtain shades of black and brown, may harm many persons. Paraphenylenediamin is extremely dangerous. Even henna may cause trouble.

A rather new thing is plastic surgery. The press has been filled with accounts of actresses who had their noses re-shaped and their wrinkles removed by plastic or cosmetic surgery. Nothing is printed about the persons who have had their faces ruined by such operations.

There are, indeed, some surgeons who can accomplish marvels in building up or cutting down noses and chins, who may occasionally be able to take a tuck in the skin—like a gusset in a piece of cloth—and so stretch out wrinkles. Look out for scars, no matter how skilled the operator. Plastic surgery is not yet the exact science that the public seems to think it. Face lifting and peeling may work out fairly well. Or they may ruin a skin.

Take a chance, if you wish, with these operations. But never, under any circumstances, let anyone inject paraffin into your skin. The person who claims to build

up a nose or to pad out wrinkles with this or any other injection is a quack *per se*.

A nose stuffed out under the skin with paraffin freezes in winter and melts in summer. It will take on the most sensational shapes.

The paraffin forms tumors which appear as various sized and shaped lumps. Even cancers may result in later years.

Any one so afflicted that he considers an operation necessary should consult his own family physician. If he recommends it, the patient should go to the plastic or cosmetic surgeon or to the dermatologist of his choice.

CHAPTER V

DISEASES OF THE FAT GLANDS

“Pimples” (Acne vulgaris) and Blackheads (Comedones)—Wens (Sebaceous cysts)—Whiteheads (Milia)—Redness (Rosacea)—Greasiness (Seborrhea)—Dryness (Asteatosis)

“PIMPLES” AND BLACKHEADS

ACNE vulgaris, or “pimples,” is the most common disease that attacks the face. In fact, it is the reason for the great majority of poor complexions. Even after the pimples themselves have disappeared, their results may remain in the shape of rough, scarry, discolored skin.

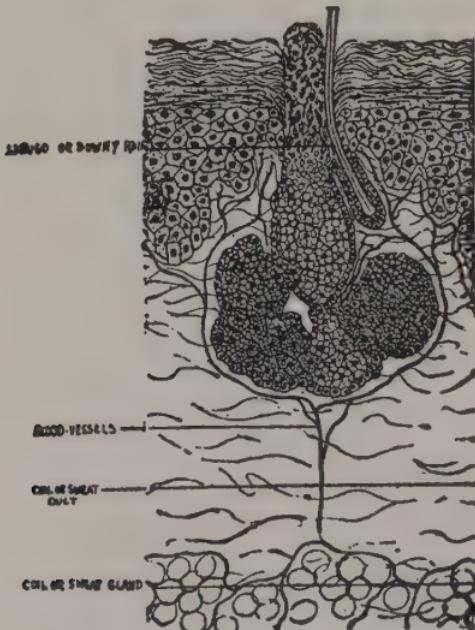
It is a human tendency to regard as comparatively unimportant anything so common as acne. The fact that it usually appears at puberty inclines us to consider it an inevitable, harmless, and slightly ludicrous accompaniment of youth, of no more serious import than a changing voice.

This point of view is all wrong. Adolescence is the awkward age. Youth changing to man or woman physically is changing mentally too. His mind is uncomfortable and gangling, like his limbs. His new psychology, like all things new, is tender. He is self-conscious, easily embarrassed. His personality is pretty well stamped for life during this time. If, then, an outbreak of pimples

is added to his other miseries, and he is laughed at for something he cannot help, he may well take on an inferiority complex that he can never shake off.

Without question, pimples have wrecked many a life.

Pimples should not be laughed at. They should be thought of as a disease, a matter for sympathy and help.



The normal fat gland.

The direct cause of pimples is blackheads or, in medical parlance, comedones, which are produced by a bacterial disease of the fat glands of the skin. Basically, the cause is gland disturbances. An associated cause is faulty diet.

There are probably many people still living who think that blackheads are "skin worms." Others think them

a mere accumulation of dirt. They are, instead, the lesions or abnormal developments of a diseased skin. Two factors are active in producing blackheads: the excessive development of the top, or horny cells of the skin; and the improper functioning of the fat, or sebaceous, glands of the skin. The horny cells on the surface of the skin and those that dip down along the follicles of the sebaceous glands multiply more rapidly than they should. They form in layers of horny cells, which block up the follicles.

The blackhead, or comedo, is a pear-shaped mass of these horny cells. Sliced open and examined under a microscope, it may be seen to consist of concentric layers of cells, like the layers of an onion. With the horny material there is some oil—sebum—from the sebaceous, or fat glands.



Acne Vulgaris. Showing blackhead formation in follicle and infiltration in corium about follicle.

On the skin the blackhead shows as a black dot. The dot is not dirt, but an accumulation of the old, dead cells.

When these blackheads are allowed to remain in the

skin, they become pimples. The lesions enlarge and are inflamed. Through scratching or other cause they may receive a secondary infection. This causes pus. Often the inflammation goes deeper into the skin and produces masses of pus, sebum and dead cells—lumps that may be hard or soft, large or small. If the obstruction to the fat pores persists, there may be wens—sebaceous cysts. Ultimately the blackheads produce, through destruction of the skin, or so-called pressure atrophy, scars varying from pin-point size to those as large as a bean. These scars are often permanent.

While acne is most commonly found on the face, it is almost as common on the back, chest and shoulders. It may occur, however, in any part of the skin where there are fat glands.

Acne is a chronic condition. Usually it begins quite gradually, but in some instances the pimples appear suddenly. There are forty to fifty lesions on the face of the average acne patient—blackheads, inflamed papules, pustules, cysts and scars. The skin is often pale, though at times it shows a purplish hue. Almost always, it is greasy, flabby and relaxed. The lesions are constantly changing—some fading, while new ones appear.

There may be only slight scarring, or the skin may be so severely destroyed that the elevated hard scars called keloids appear.

All this is caused by the microscopic organisms called acne bacilli. They are present in the healthy skin, and cause trouble only when some constitutional disturbance gives them the chance to start trouble.

The reason that acne appears so commonly during puberty is because it is associated with the abnormal

functioning of the endocrines, or glands of internal secretion. The sex and thyroid glands are probably those most directly associated with acne. The function of these glands is often disturbed during puberty.

Acne tends to last throughout the period of adolescence and then disappear. In some cases, however, it continues throughout life. In girls, the lesions are apt to become more numerous and more inflamed during the menstrual periods. At such times, there is often the peculiar development of acne on the left side of the chin and on the right breast. While acne is usually a disturbance of adolescence, it may never appear until the climacteric—the change of life—is reached.

When there is general ill-health, the skin is more apt to succumb to the attacks of acne bacteria. Constitutional conditions that make the skin fertile for acne are: constipation, excessive carbohydrate diet—that is, one too rich in sweet and starchy foods—indigestion, general debility, anemia and poor local and general hygiene.

Laboratory tests of the blood, urine and feces of acne patients frequently show a high sugar content of the blood, acidosis—a diminished alkali content—and excessive fermentation of sugars and starches in the bowels.

The use of tar on the skin may bring about an eruption resembling that of acne. Two common drugs, iodine and bromides, may produce a condition resembling acne. Taken internally, they are partially excreted through the skin, and often irritate it. Dirt, or anything else which tends to close the openings into the sebaceous follicles, may help to bring on an attack of acne.

Milk, for example, is often used instead of water for cleansing the face, especially where there is acne. As a matter of fact, it is injurious.

For one thing, where the skin is thickened and covered with a dense layer of horny cells, as is the case in acne, a much more effective cleansing is needed than milk can give. In acne, there is a tendency to pus infection, and milk on the skin is an ideal hotbed for the growth of the germs which produce pustules and boils.

In addition, a greasy skin is one of the accompaniments of acne. The use of milk makes the skin greasier. Water with plenty of soap is the thing to use.

It seems curious to the physician, and indeed, to the intelligent layman, but the fact is that innumerable people never use soap and water on the face. They have been told, probably by advertisements, that creams and lotions are far better for cleansing and healing purposes. They go about for years with greasy faces, coated with powder, and imagine they are doing their best for their complexions. It is impossible, without giving offense, to condemn this filthy practice as strongly as I should wish. There is no imaginable benefit to be derived from it. It is simply unspeakable and injurious.

When you want to clean your face, use soap and water.

Acne is a troublesome disease, but modern methods of treatment have been developed to the point where they produce splendid results in a comparatively short time. Because some cases seem to clear up of themselves, there is an erroneous idea that acne should be left alone to heal itself.

The trouble is that the disease produces scars which

do not disappear. The longer the disease lasts, the more scars will be formed. The thing to do is to nip acne in the bud; then there will be fewer and slighter after-effects.

The first step in the treatment is a thorough examination. This will determine the type of eruption, and the constitutional disorders that may be causing it. When the constitutional cause has been established and corrected, the skin is treated directly.

Briefly, the constitutional treatment consists of a correction of the diet, and of the stomach and bowel activity, the prescription of general tonic measures and the administration of organotherapy.

The diet should be practically free from carbohydrate foods, the sugars and starches. Sugar, candy, cakes, pies, ice-cream, puddings, jam, jelly, cocoa, potatoes, cereals and over-sweet fruits are forbidden. Hard, irritating fried foods, gravy and sauces are under the ban. They interfere with good digestion. Spices and condiments, alcoholic and other stimulating beverages such as coffee and strong tea are prohibited, because they help to cause a reflex dilation of the blood vessels of the face and increase the congestion and inflammation.

Milk, cream, fermented milk, eggs, vegetables and not-too-sweet fruits are the main foods. Meat or fish once a day, cheese, soups without flour, and no more than six half-inch-thick slices of bread a day may be eaten. These will provide sufficient nourishment and keep the diet appetizing and health-producing.

Large quantities of water should be drunk at regular intervals. Hardly anybody, acne patient or not, drinks enough water. Acne patients who are under

weight should drink three eggnogs daily, between meals. Needless to say, the eggnogs should be prepared without the customary whisky or brandy.

This sort of diet eliminates the foods which are indigestible, irritative, fermenting and too acidulous. The meals should, of course, be eaten regularly. There should be at least one evacuation of the bowels every day. Where there is a tendency to constipation, colonic irrigations, enemas, mineral oils, milk of magnesia or the proper cathartics should be used. Abdominal massage and exercise will vastly improve the tone of the intestinal action. Agar-agar is useful. If there is chronic constipation, as there often is in these cases, the patient should receive a physician's care. Whether it result in acne or not, intestinal fermentation invariably results in a poor complexion. Ingestion of the Acidophilus and Bulgaricus bacilli helps to maintain a good condition of the intestines. The best way to take these bacilli is in the form of tablets or emulsions of the culture.

For the last few years there has been a wide and vigorous campaign to promote the use of yeast as a cure of acne. The theory advanced is that yeast, taken internally, cleans up the intestines and blood and so clears the skin.

It cannot be said that this theory is incorrect. It is not, so to speak, true enough. Yeast will help the complexion somewhat, in some individuals. But at that, it will only help it a little, and then only if it is taken steadily for a long time.

Especially in cases of the adolescent, there should be plenty of fresh air, rest and sleep, sunlight, daily bathing and the avoidance of mental and physical over-

exertion. The young girl, as well as the boy, should be told frankly, but tactfully, of the changes produced in the body by the new activity of the sex glands. Girls should be warned to avoid fatigue during their menstrual periods.

Since acne is associated with the changes that begin with puberty, there is sometimes a benefit to be derived from the administration of extracts of the endocrine glands. This, however, is emphatically a matter for the physician to handle. They may produce no effect, or they may produce a very harmful effect and only the physician can decide whether they should be used or not.

In many cases of acne, there is a purplish discoloration of the skin. This is often associated with acidosis, which is best treated by the physician. Alkalies such as bicarbonate of soda help to overcome acidosis. Where there is much pus formation, injections of vaccines, turpentine, and foreign proteins are of value. They are administered by a physician, of course.

All this is constitutional treatment. There is, in addition, a direct or local method of treating the infection. Its purpose is to remove the lesions more rapidly than nature can, to harden the skin against the bacteria and poisons from the body and from the air, and to prevent bad after-results.

Like the constitutional treatment, local treatment should begin as soon as the lesions appear. It is absolute folly to wait for nature to heal.

Cleanliness is essential. Water and soap are the best cleansing agent and tonic. Here is the reason:

The acne skin is pale, pasty, loose. The color is poor because the blood vessels are not toned up. The skin is

greasy because the diseased fat glands are working overtime—feverishly. The muscles are flabby.

There is one great agent that combats these conditions. One great tonic. One great stimulant. That is water!

Cold water improves the color of the skin by toning up the blood vessels. By contracting the muscles around the tiny glands, it corrects their faulty secretory functions. Contracting the skin muscles, it makes the skin firmer. With the addition of soap it emulsifies the oil of the face, softens the scales on lesions and permits their removal.

The face should be washed with cold water and soap several times a day. At bedtime, warm water and soap may be used, followed by cold water for the tonic effect.

The best soaps are the common, advertised, bland soaps, the kind most households use regularly. There is no real reason for using expensive medicated or perfumed soaps. Tincture of green soap or sapolio may be used for their stimulating and peeling action when X-rays are not employed. As a rule there is no better toilet soap than a good brand of castile.

Almond meal may be used instead of soap. Pour a teaspoonful of almond meal in the palm of the hand, moisten it into a lather with water, and then rub it into the skin. It has a soothing and cleansing effect. Sulphur soaps are of some value.

Tar soap should never be used on acne skin. It may produce spots that look like blackheads. Milk, as has been said, should positively never be used on the face when there is acne.

Again, let it be said emphatically, there is nothing like soap and water for the face. A bowl of water and

a cake of good mild soap are a whole beauty parlor in themselves.

Blackheads are removed most rapidly by mechanical expression. Excellent comedo-extractors that are properly made and are strong are available at surgical supply stores. The extractor should be made of metal and should be sufficiently strong to withstand firm pressure. The orifice should be the size of a pin head or slightly larger, and the edges dull and rounded. In its use, the orifice is placed over the blackhead so that it may be easily seen by means of a mirror, and then pressure is firmly and steadily exerted. At times a slight wiggling motion aids in loosening the blackhead. Care should be taken not to tear or injure the skin. Too much pressure should be avoided. Following the removal of the blackhead, the skin should be washed with soap and water, and an astringent, antiseptic solution should be applied. Needless to say, the extractor should be sterilized before and after use, to insure against infections. For the permanent removal of the blackhead, the X-rays are our best means of treatment. Patients should be warned against putting their fingers to the face constantly, because of the possibility of beginning infections, or spreading infections that have already set in. Picking and scratching should be avoided, as this may be followed by ugly tears and excoriations, especially in neurotic patients. The result of such mistreatment of the skin of the face is very often scars.

For the quick, efficient treatment of acne, nothing surpasses the X-rays. The use of the X-rays for acne vulgaris was introduced several years ago, and it marked a great advance in dermatology. Before that time it was impossible to predict how long it would

take to cure a case. Now it is possible to tell patients that with proper supervision of the general condition, and with X-ray treatments, cures may be accomplished within four months in ninety-eight per cent. of all cases.

Small doses of the X-ray are given, usually once a week, for about sixteen weeks. Often there is no noticeable effect until after the eighth week. Sometimes the lesions seem worse after the first two or three treatments, and indeed, they may seem to be more inflamed. But this reaction rapidly subsides.

If there is a relapse, it usually occurs some six months after the treatment has ended, and rarely does it need more than six more exposures to the X-ray before evidences of the disease are gone for good.

Needless to say, X-rays should be administered only by a technically trained operator. During the course of administration it is especially important to avoid the use of irritants on the face, because these not only inflame the skin, but interfere with the application of the rays. The only local adjuncts to X-ray treatment are mild soaps, zinc oxide ointment and soothing lotions.

The action of the X-rays prevents and removes the excess formation of the horny cells, reduces abnormal activity of the oil glands and makes the skin unsuitable to the growth of the bacteria.

Radium is sometimes used for acne, but it possesses no advantage over X-rays.

Ultra-violet rays obtained from quartz-mercury-vapor lamps are also of value in treating acne, if administered over a long period of time. They tone up the skin, improve the color, peel off the diseased skin and dry up the excess fat or oil. The effects are not so

good, however, nor so rapid and lasting as those of the X-rays. The high-frequency current, galvanic current and the infra-red rays are also sometimes used. But they are not so beneficial as the X-rays.

Ice may be applied for its tonic effect, and often helps to speed up the cure. Mud and clay packs have absolutely no value at all. There is no scientific basis for their use in acne.

So-called peeling methods should never be used when X-rays are administered. This form of treatment consists in the application of a peeling caustic to the face, usually in the form of a paste. The caustic causes an inflammation, which is followed by the peeling. After this a protective soothing and healing paste is applied. It is a painful method of removing the lesions rapidly. But they are only removed temporarily.

Even when the X-ray is used, acne may come back if the constitutional disorder is allowed to return. Good health is the best safe-guard against pimples.

WENS

Wens are little lumps that seem to form under the skin and try to push through it. Really, they are little lumps which form in the follicle of the skin itself. There is a widespread idea that they are dangerous—almost fatal, in fact. Probably the notion arose because wens are a variety of tumor. But “tumor” simply means swelling; and only malignant tumors such as cancer are really dangerous.

Actually, wens are pouches, or pockets or sacs of sebum, the secretion of the fat glands. When the follicle or tube through which the sebaceous gland empties its

contents becomes plugged, the sebum cannot escape, and it is dammed back and held. Gradually it distends the gland and the follicle until a lump is formed.

Usually wens occur on the face and scalp, but they are occasionally found on other parts of the body where there are sebaceous glands. They are either firm or soft, of a semi-globular shape, and the elevations they produce are either rounded or flat. Sometimes there is only one, sometimes a dozen or more.

Unless there is a secondary infection, wens are white or pale pink in color, and cause no pain. When infection sets in, pus forms and there is pain. Sometimes a blackhead forms at the original mouth of the follicle. Small wens sometimes form on the eyelids, and are called chalazions.

The contents of a wen, no matter how hard, are of a cheese-like texture, and may be squeezed out where there is an opening. But that is exactly what should not be done. Wens should never be irritated, squeezed, pricked or cut, unless they are to be completely removed.

The operation of removal is extremely simple; but it must be performed skilfully, or the wen will return and the scar of the operation will remain as a disfigurement. Properly done, the operation consists in the removal of the whole pocket, lining and all, through only a small fine incision. The resulting scar should be merely a thin, barely perceptible line.

Such an operation is difficult where there has been an infection or a previous operation. In such cases the wall of the pocket adheres to the skin and puckers it.

X-rays and radium are also used to destroy the wen.

They destroy the secreting cells which line the cyst, so that the sebum ceases to form.

In the case of old people it is important to destroy the wens entirely, because there is a tendency toward wartiness, which may degenerate into cancer of the skin.

WHITEHEADS

Practically every adult woman knows what whiteheads are—the little pearly-like elevations as big as pin points or pin heads, that spring up here and there on the face—and very few women escape having them at some time or other. Still fewer women seem to understand what they are and how they should be treated.

Do not squeeze them! That is the chief thing to be said about them. Their contents cannot be expressed simply by squeezing them. Therein lies the distinction between them and blackheads.

A great many women do squeeze them, and in so doing inflict unnecessary injury to their complexions.

The exact cause of milium is probably a retention of oil and cells in the mouths of the sebaceous and hair follicles. They are painless, and the only reason for removing them—but quite a sufficient reason—is that they are disfiguring, or constitute a cosmetic defect. They seldom disappear of their own accord.

Women who seem to grow crop after crop of milia should wash their faces with soap and water more often than usual. After washing and drying, a mild sulphur lotion should be applied. Frequently acne is associated with milium, and in such cases the measures

recommended elsewhere for acne should be employed.

The best way of treating whiteheads, for a permanent cure, is by opening and removing the contents. The root of the evil may then be destroyed by the application of caustics or the electric needle. They may sometimes be destroyed by the use of a peeling preparation.

REDNESS

Red face—"gin blossom" or "grog blossom"—is given the somewhat poetic term of rosacea in medical circles. Basically it is due to constitutional disorders; but almost invariably it produces or accompanies diseases of the fat glands, and for that reason it is grouped with pimples, wens and the diseases of the sebaceous glands.

Essentially rosacea is a redness or flushing of the middle third of the face. In its mildest form it is only a redness of the tip of the nose. Usually it begins with a temporary flush.

Almost anything may cause this flush; and it is unfair to accuse the victim of having drained a gin bottle on the evidence of his nose alone. Exposure to heat, cold or wind, or hot, highly spiced foods or drinks will also produce similar changes.

Whatever the cause—extremes of temperature or irritating foods and drinks—there is a reflex opening of the blood vessels in the skin, and this results in the redness.

The nose reddens first only because it is more vulnerable—its blood vessels are closer to the surface and more concentrated. If the rosacea is progressive, it

next spreads to the cheeks, the chin and to the middle of the forehead. With repeated flushings the blood vessels become permanently dilated, and the red color of the skin persists. The enlarged blood vessels become visible as streaks. This condition is known as telangiectasis.

Next comes the stage characterized by a spreading over the skin of dark red or purplish lumps or pustules. Blackheads and pimples may form, and the pores are open and enlarged. Usually the skin becomes covered with oil, and is greasy to the touch.

The congestion of the blood vessels has now become chronic. This causes an exaggerated growth of the tissues. The nose swells and enlarges and becomes purplish. Small lumps and tumors form on it. In severe cases the nose grows pendulous or drooping. This third stage is called rhinophyma.

Rosacea first appears in adult life. The milder cases—flushed and streaky faces—occur most often in women, but they usually escape the extreme disfigurement which the disease may cause with men.

While constitutional disturbances almost always cause the congestion, it is sometimes the result of local conditions that interfere with the circulation. Tight, heavy eyeglasses restrict the circulation of the nose and cause it to flush. Growths and bony obstructions within the nose may do the same thing. Persons of outdoor occupations, such as sailors and chauffeurs, may suffer from rosacea because of their constant exposure to the wind.

It was formerly thought that hyperacidity, an increased amount of acid in the stomach, produced rosacea. Now, however, it is generally recognized that

the reverse is true. The acid content of the stomach is too small. For this reason physicians often prescribe small doses of dilute acid.

Associated with this condition of diminished acidity is a disturbance of the nervous system, especially the part that controls the secretions of the stomach. It is this association of the nervous system with the stomach and the skin that brings about the flush after shocks, emotional disturbances, too hearty eating and drinking, constipation and improper digestion and elimination. Strong tea and coffee, as well as alcohol, in excessive amounts will produce rosacea.

Disturbances of the endocrine glands often cause it, as for example, in women at the change of life and during the menses. It is associated with diseases of the womb. General constitutional diseases such as general debility and gout are considered as producing it.

While rosacea has no tendency to cure itself and is obstinate to treatment, it can be cured. There is much that can be done by local treatment, but the main dependence is on constitutional treatment.

Obviously, the first thing to do is to discover the cause of the dilation of the blood vessels. There must be a thorough examination. Analysis of the stomach contents is important, as it will reveal the faulty functioning of the ferments and other chemicals formed there. Other laboratory examinations will disclose whether there is undigested food and fermentation in the bowels. Urinalysis may show other metabolic disorders. Blood tests are apt to show abnormal composition or anemia.

Having by these tests arrived at a true picture of the state of the constitutional health, a course of treatment

is devised which aims to correct the diet, improve digestion, cure nervous complaints, establish good bowel action and remove whatever factors seem to be helping in causing the rosacea.

The proper diet is essentially one which eliminates all irritants such as spices and condiments—pepper, mustard, pickles, sharp sauces. Usually tea, coffee, cocoa and chocolate, and alcoholic beverages are forbidden. Gravies, fried and greasy foods, mayonnaise and oily dressings are harmful. Hard, indigestible foods such as nuts and melons are forbidden.

A typical diet would include, milk, acidophilus milk, eggs cooked any way but fried, fruits, well-cooked vegetables and not too much meat. The acidophilus bacilli help to keep the bowels active and prevent fermentation. Abdominal exercise and saline laxatives, such as phosphate of soda, not only stimulate sluggish bowels but remove a large amount of water, and so relieve congestion. Enemas, colonic irrigations and such cathartics as cascara may be necessary to relieve constipation.

It is helpful to employ general tonic measures. Cool showers, exercise in the open air, freedom from worry and plenty of rest and relaxation come under this category. Tobacco is usually forbidden. Drugs often prescribed as tonics, like iron and arsenic for anemia, bromides for their sedative effect on irritable persons, and dilute acid and pepsin for stomach disturbances. Needless to say, none of these drugs should be taken without a physician's advice.

If the rosacea appears in women near the change of life or during the menses, ovarian or uterine disorders should be looked for and corrected. Thyroid and ovary

gland extracts may possibly be of some benefit in these cases.

Chauffeurs, firemen, sailors, laundry workers, cooks and others whose occupations expose them to extremes of temperature may protect their faces by the use of powders and lotions and creams.

For direct treatment of the skin, the main thing is merely washing the face frequently. But it should be washed with soap and cold water, or rubbed with ice. This is a marvellous tonic; it pep's up the muscles and blood vessels and keeps them small and contracted. It is difficult to resist the temptation to break into a eulogy of water. No cosmetic ever devised can compare with plain cold water as a tonic, cleanser and beautifier combined. The only drawback to water is its cheapness. If it could be obtained only in tiny, ornate flasks at ten dollars an ounce, it would sweep a vast amount of perfumed trash off the toilet table!

There are, however, certain preparations which help cold water in fighting rosacea. They are all astringent in nature. Rosewater and boric acid solutions, and emulsions containing sulphur are especially valuable. The best sulphur lotions tend to prevent grease formation, and as they evaporate, cool the skin, contract the blood vessels and leave the sulphur powder on the skin.

Where there is irritation in addition to the redness, the skin should be soothed with wet dressings of boric acid, or zinc oxide lotions before the sulphur is employed. In using these preparations, some of the mixture should be poured into a saucer, and applied with a piece of clean flannel cloth. The best time to apply any such preparation is at night, so that it can remain on the face until morning, when it should be washed off

with cold water and soap. After this, fine powder or a thin, invisible lotion may be dabbed on.

Vinegar, witchhazel and weak alum solutions are good, mild astringents. Too great congestion of the skin is harmful; but the drugs such as resorcin, ichthiol, ergot and camphor are sometimes used successfully.

There is a general delusion that massage of the face is necessary in treating rosacea. Barbers are apt to prescribe it, as well as the operators in beauty parlors. The fact is that massage of a diseased face is very injurious. It irritates an inflamed skin, and spreads infection. When the skin is in an unhealthy state, it is very easy for it to contract infection from the massager's fingers. Whether or not the rosacea is due to constitutional disorders, local causes such as tight eyeglasses and nasal obstructions should be sought and corrected.

Often rosacea is accompanied by seborrheic eczema—scaliness—which produces red and greasy spots. It should be treated, of course. Where there is much greasiness, enlarged pores, and blackhead formation, the X-ray in the hands of a skilled operator can produce excellent results.

Electrolysis can do much to reduce telangiectasias—the enlarged blood vessels which show as purplish streaks. The operation is the same as that for the destruction of the follicles in hypertrichosis, or superfluous hair. The electric needle is inserted along the course of the vessel and the current allowed to flow until the vessel is destroyed. Scarification, or the application of the electric cautery, will also destroy the unsightly vessels, if done skilfully. After such treatment, cold applications and astringents are applied.

These same methods of treatment are employed for cases where the nose is tremendously enlarged or has a hanging growth; but the quickest and best method is removal of this growth by surgical operation. The growth is cut away with a surgical razor: if the bleeding is profuse, it is easily stopped by pressure and ice. Operations by this technic usually produce excellent results. X-ray or caustics prevent the re-growth of tissue after the operation, and caustics are used to destroy the follicles which have produced the excess growth.

To sum up, it should be said that there is little, if any, reason for any one to suffer from this common and disfiguring disease. With proper internal treatment and the application of the external measures herein described, the congestion is reduced, the glandular activity is diminished, the acne and seborrhea relieved and the excessively enlarged vessels permanently destroyed.

GREASINESS

Abnormal greasiness of the skin is one of the commonest causes of a poor complexion. It is the result of a diseased condition of the oil or sebaceous glands, which causes them to work overtime and secrete too much oil.

It may begin in infancy or later. Where the patient contracts acne at puberty, it is almost invariably accompanied by seborrhea. The oil deposited on the face makes it look shiny and dirty, especially on the nose. The pores, or openings of the sebaceous follicles, are usually enlarged. Sometimes the oil accumulates and cakes until it forms greasy crusts, especially over the larger pores. The scalp is always affected, sometimes

showing greasy, glistening, matted hair. When the disease persists there are apt to be inflamed patches and baldness. Seborrhea is the most common cause of baldness.

When a case of seborrhea has lasted for a long time it usually causes the formation of crusts and scales, especially in the wrinkles near the nose and on the ears. This is followed by an inflammation which produces seborrheic eczema. These red, scaly and blotchy spots cause itching. Such seborrheic patches should be treated, because they may well develop into warty spots which, in turn, will degenerate into skin cancers.

Seborrhea is common to both sexes, and is most in evidence following puberty, when there is increased gland activity. It is caused by germs; but general debility and infections are usually present. The pressure of too-tight hats and eye-glasses, and nasal disorders increase its severity.

If the cause of seborrhea has been understood from this explanation, it is easy to see how useless are the patent medicines that claim to cure it. Local treatment alone is futile. Internal treatment is essential. Otherwise, the cause of the disease is left untouched.

Faulty bowel action or anemia must be treated in almost every case of seborrhea. Tonics such as iron, arsenic, quinine and cod-liver oil are valuable. Cod-liver oil has long been known as a tonic, but only recently has the secret of its value been learned; cod livers contain, in condensed quantities, a substance known as cholesterol—"solid sunlight." Minute water plants absorb sunlight and its actinic rays, little fishes eat the plants, and cod eat the little fishes. The process is cumulative. In some ways, the taking of cod-liver oil is

comparable to an internal treatment with the violet ray. The basic principle is the same: the actinic rays of the sun.

Plenty of fresh air and sunlight are necessary, as is exercise. The diet is the same as that for acne, as a rule. Alkalies in powder or water are valuable. The most convenient form in which to take them is as a sparkling, alkaline table water.

For the direct treatment of the skin, water, again, is the best. It helps to contract the follicular openings. Warm water has more cleansing value, but should always be followed by cold water or ice to prevent relaxation and sagging. Bland, neutral soaps such as castile are usually recommended. Milk for washing the face is especially forbidden in cases of seborrhea. Not only is it of no curative value, but it fails to cleanse the skin and so increases the dirt and infection. Many people believe that steaming the face is of great help in curing seborrhea. It has very little value, if any, but should always be followed by cold applications, if the patient feels he wants to use this treatment.

If honest, well-intentioned barbers and beauty-shop operators could only get over the notion that massage is good for any and all facial troubles, there would be much less work for the dermatologist. Massage of the face is absolutely forbidden in cases of seborrhea, as in acne. It accomplishes no good, but merely spreads the infection over the patient's face. Furthermore, it brings about fresh infections from the operator's fingers, and likely as not passes it on to other patrons.

Never let any one massage your face unless your face is in perfect health. And then only if you are sure that the massager's hands have been sterilized.

Another harmful and expensive line of propaganda is the drool distributed as advertising matter about "skin foods." There simply is no such thing. No food for the skin can be fed to it from the outside. "Skin foods" and toilet creams should rarely if ever be used on a seborrheic skin. It is already too greasy; why apply more grease? Such preparations merely increase the greasiness, spread the infections and plug the pores.

Certain drugs, however, are of great help in the local treatment. They are sulphur, mercury, salicylic acid and resorcin. They are best applied as lotions. Boric acid solutions and bran baths are good. They are antiseptic, and soothe the skin as well as relieve the congestion. Boric acid mixed with camphor water makes an excellent cosmetic. A very dilute solution of vinegar (acetic acid) makes a good astringent for decreasing congestion.

Incidentally, there is no use buying expensive facial lotions that are based on this same vinegar principle. As a rule they are only a few cents' worth of vinegar, diluted with aromatic oils and water and attractively colored. Aside from their containers and their advertising, there is nothing in most of them to make them worth more than ten cents an ounce. Try to buy them for that price!

Almond paste or meal applied at night and removed in the morning is soothing and cleansing. Rosins and balsams emulsified and mixed with water help to relieve seborrheic inflammations, make the skin firm, improve the color and texture, and with patient application tend to prevent wrinkling. But they should be used only if prescribed by a physician, as they may irritate the skin. In advanced cases of seborrhea where the skin has thick-

ened and is scaling, weak alkali solutions help to remove the lesions.

But the quickest and best local treatment for seborrhea of the face is by means of the X-ray. Properly administered, X-rays reduce the oil secretion, remove the inflammatory lesions, and prepare the skin against the growth of bacteria. Ultra-violet rays are also beneficial. They destroy the bacteria, improve the color, remove the grease, crusts and scales, and generally tone up the skin.

The electric needle and caustics are used where placques and cancerous tendencies are present. Even more radical treatment may be necessary if cancerous growths are developed.

DRYNESS

Asteatosis is the direct opposite of seborrhea. Instead of producing too much oil, the glands produce too little. The skin is dry, scaly, harsh and cracks easily.

More often than not asteatosis follows or is connected with some other skin trouble. Otherwise it is an accompaniment of great age, or it results from the excessive use of drying applications, such as strong soaps, alkaline cosmetics and heavy powders. Disturbances of the functions of the thyroid gland may also cause the skin to look dry, lifeless, masklike and drawn. There is a loss of elasticity, a difficulty in talking and the tendency of the skin to crack. The skin is subject to eczema and infections.

A general examination should determine the treatment of this condition. All internal derangements should

be corrected, and frequently thyroid gland extract is prescribed by the physician.

The face should be protected from extremes of temperature, soaps and irritating cosmetics. Water should not be used for washing the face. Olive or almond oil should be used instead, as it not only cleanses but forms a protective film over the face. Animal fats like lanolin and lard, and mineral oils like vaseline and petrolatum are used as well.

Cold creams are also good, for the same reasons. The worth-while "skin foods" are almost always modifications of cold cream. They consist of oils combined with a fluid and anhydrous wool fat.

For a person with excessively dry skin, the face should first be cleansed with one of the bland oils, and then a cold cream should be gently rubbed in. Liquid face powder—fine powder suspended in oil—may be used during the day. Boric acid solution dabbed on the skin is soothing. Glycerine in rosewater, boric acid solution or white of egg rubbed gently into the skin makes it glossy, soft and pliable.

All too many people fancy that their skins are over-dry. As a matter of fact, persons in normally good health scarcely ever suffer from this condition. That is, they would not suffer from it, if they took proper care of their faces and used only cosmetics that were neither too strong nor too astringent.

CHAPTER VI

INFLAMMATIONS OF THE SKIN

*Eczema—Inflammation (Dermatitis)—Chapping—
Sunburn (Dermatitis solare)—Frostbites or Chilblains
(Dermatitis congelationis)—Dermatitis from nervous-
ness—Dermatitis from poison ivy and other plants—
Other forms of facial dermatitis—Occupational derma-
titis—Fever blisters; cold sores (Herpes facialis)—
Radiodermatitis—Hives (Urticaria)—Psoriasis*

ECZEMA

ECZEMA, as a word, is probably more familiar to most people than the name of any other disease, unless it be pimples, which is neither an accurate nor a technical term. Somehow laymen have got to using the word eczema as a general term meaning any and all diseases of the skin. Perhaps they have been encouraged in this ignorance or otherwise, employ eczema as a synonym of skin disease.

Even in the medical profession, it must be admitted, the term is quite loosely applied, and among dermatologists there is a never-ending discussion as to just how and how far the word should be used. Its pronunciation would seem to be a question, too. Many educated people call it ec-ze'-ma, but Webster says it should be accented on the first syllable: ec'-zema.

Thus all sorts of facial eruptions and inflammations and infections are labelled eczema and treated—or neglected—accordingly. The true disease is very common, so common, in fact, that it would seem important to clear up as much as possible the confusion that exists about it. This chapter attempts to explain just what eczema is, its causes, its relation to the general constitution and its treatment, and furthermore, how it differs from dermatitis of the skin. Dermatitis tends to be a more active inflammation with greater moisture and oozing, usually of shorter duration than eczema, and is as a rule associated with some external agent as the direct excitant.

The term *eczema* is usually applied by the physician to any wet or scaly inflammation of the skin of which the cause is unknown. The word is derived from the Greek and means "I boil over." As a heraldic motto it is not so popular as "Excelsior," however.

The condition is a most interesting example of the close relationship that exists between the health of the face and the health of the rest of the body. Not only is the face exposed to all sorts of external irritation, but it reacts, through the blood vessels and the nervous system, to all sorts of internal irritants. Thus external infections or another skin disease may produce eczema, or a metabolic disease may cause it.

Eczema should be thought of as a catarrh of the skin. When we say catarrh we usually think of catarrh of the nose, but there is also catarrh of any mucous membrane, of the bronchi, intestines and so on, as well as of the nose.

Catarrh of the skin of the face, or eczema, is an inflammation. There are many kinds of inflammation.

This kind is characterized by certain pathologic changes. These changes are mainly: Redness, swelling, increased fluid in the skin resulting in moisture and vesicles or small elevations containing fluid, oozing, thickening of the skin, scaling, cracking and itching. The course and order of these changes is also characteristic.

First the blood vessels are dilated. Some of the fluid, the serum and some of the blood cells pass through the walls of the blood vessels and accumulate in the corium, or true skin. Then the cells in the epidermis, or top layers of skin, enlarge, look moist and paler than normal. The effect is to make the skin, seen from the outside, look puffy and red.

This condition progresses. There is more discharge of fluid into the corium and more swelling in the epidermis. The skin grows redder and puffier; and solid, inflamed lesions called papules are formed. As the inflammation grows more severe the cells of the epidermis break down to form cavities, more and more fluid is poured through the walls of the blood vessels into the corium, and the moisture on the skin is clearly seen under the microscope.

Finally the skin shows elevations that contain fluid, blister-like vesicles. These grow big enough to be seen without the microscope. Here we have the characteristic picture of eczema. The skin indeed suggests a boiling over—red, angry-looking, covered with papules and vesicles that look much like bubbles on boiling water.

When the vesicles are torn, the serum oozes out and the skin becomes moist and raw. When the serum dries, crusts form. The crusts are varicolored—yellow from serum, brown from blood and green from pus.

With the skin in this condition, secondary infection

from pus-forming microbes is easy, and pustules form.

Acute eczema, if not quickly treated, tends to become chronic. Then fibrous tissue forms and the skin becomes thick and inelastic. The criss-cross lines of the skin become more pronounced, and vesicles occur in patches. When the thickening occurs in places subject to frequent movement, as around the eyelids and mouth, cracks result. Itching is always present and is intensified if the patient scratches himself. The itching is the result of an irritation of the nerves by the swollen skin, or by the poisons or chemicals, for instance, like uric acid or sugar of the blood that the skin is trying to throw off.

The cells of the top layers of the skin multiply excessively and the scales heap up. This makes the skin look thickened, ridged and scaly.

These changing conditions, seen under the microscope, are what identify eczema and distinguish it from a number of other skin diseases that somewhat resemble it. It is important that it should be positively identified, or the treatment may do more harm than good.

In some cases the cause cannot be determined. Most cases, however, show that the skin condition depends upon a constitutional disorder and an internal or external excitant that is the active cause of the signs of eczema. Often an abnormally dry skin or a tumor may be the local predisposing factor.

The type of eczema most frequently affecting the face is one which occurs between the ages of eighteen and forty. The cheeks and forehead are the places usually affected. The eruption consists of red, vesicular, moist, crusted, scaly and vaguely outlined patches. When the

patches have lasted for a long time the skin is dark red, thickened, scaly, crusted and scratched. In the seborrheic eczema the red spots are covered with greasy yellow scales, and occur mainly on the folds of the face, as at the sides of the nose and between the nose and upper lip, on the forehead and behind the ears. This type is associated with the seborrhea of the scalp—the infection that produces dandruff—and is secondary to it. It is likely to recur frequently, especially when the seborrhea of the scalp is not cured and becomes moist and crusted through scratching.

Some types of facial eczema, though constitutional disturbances may be a predisposing cause, are mainly brought on the skin by contact with chemicals in cosmetics, or chemicals handled in daily work, or by exposure to extremes of temperature and physical agents such as trauma, heat and wind encountered in daily work.

When infants contract the crusted seborrheic eczema of the scalp, the forehead, cheeks and chin become involved. The characteristic oozing, crusted and vesicular inflammation of the skin appears when infants suffer from metabolic disturbances. There may be one attack or it may be chronic and recur throughout life. The chronic form is blamed on various causes—faulty diet, acidosis, constipation, endocrine disorder, hypersensitivity to proteins. They may or may not be the cause. Frequently it is impossible to make sure of the cause so many things are potential causes. Even finger-sucking may produce an eczema around the infant's mouth, but irritation from food and drooling is as probable.

Catarrh of the dry, senile skin is almost always the

result of a metabolic disorder or a local irritation. Repeated attacks of seborrheic eczema lead to the formation of tan or brownish black elevations, the size of a pea or a bean, which become warty and may be the source of skin cancers.

The treatment of eczema, therefore, calls for:

1. A thorough examination of the body, to see if there are any constitutional disorders; and their treatment.
2. Removal of local predisposing factors, such as dry skin and tumors for instance.
3. Removal of internal or external excitants.
4. Local treatment to correct the abnormal changes in the skin.
5. In addition to the physical and laboratory examinations, the physician must obtain a detailed history of the patient's health, in order to determine whether there is present diabetes, Bright's disease, rheumatism, gout, chronic constipation, indigestion, endocrine disorder, or disease of the heart and blood vessels. The investigation should determine further whether there is anything in the patient's habits, occupation and environment that is helping to produce the eruption. It may be found that cosmetics or hair dye is the cause, or that his occupation is at fault—as in the case of a painter or plasterer.

No two persons will react alike to the agents that excite attacks of eczema. There seems to be an internal something which makes the skin of certain persons particularly susceptible to eczema. Two men may come in contact with the same chemical. One will develop eczema the first time he touches the chemical. The other can handle it for years without the least sign of trouble.

The first man is predisposed to eczema; the second is immune to it. Yet the second man is not necessarily immune for life. After many years of safe contact with the chemical, he may suddenly develop acute and chronic eczema. Something has happened to destroy his immunity.

There is no specific drug or form of constitutional treatment for eczema. Instead there are many things which can and should be done to put the body in proper condition.

Frequently the stomach and intestines are at fault—especially the intestines. When the latter do not empty properly there is an accumulation of poisons which leads to a deposit in the blood, and this deposit eventually affects the skin. Constipation is the chief cause of this intestinal poisoning. A very good beginning of a campaign against eczema is a thorough cleaning out of the bowels. This is effected by taking a strong purgative such as calomel or salts, to be followed by an intestinal irrigation, or enema. Small daily doses of mild saline cathartics such as phosphate of soda, Rochelle or epsom salts remove excessive fluids from the body and thus relieve inflammation of the skin. Vegetable cathartics such as cascara are valuable. Agar-agar and mineral oils are lubricants as well as cathartic in their action.

By far the best correctives and preventives of constipation are proper diet, abdominal exercise and massage, and most important, the maintenance of regular habits of elimination.

Dietary rules depend upon the constitutional disease that may be present. Even if there is no such disease, it is advisable to eat less food and simpler food, at the

beginning of treatment for eczema. Anything indigestible is strictly forbidden, of course. Spiced or highly seasoned, fried, hashed and stimulating foods and drinks are banned. Tea, coffee, cocoa and alcoholic drinks are positively off the menu. Water should be drunk only between meals, before going to bed and on arising. It should not be drunk during meals.

In rare cases the famous starvation diet of water and fruit juices has proved effective. In other cases cereals, milk, fruit juices and water have helped the cure. Removal of fish, meat and eggs from the diet may be indicated if there is evidence in the blood and urine of intestinal putrefaction, kidney irritation or defective urinary elimination. If there is diabetes or carbohydrate fermentation of the stools, sweet and starchy foods are eliminated of course. When the liver and gall bladder functioning is faulty, as shown by excessive amounts of fat or cholesterol, the fat foods, such as cream, oil and butter, are excluded as much as possible. Gout, rheumatism, obesity, endocrine disorders and diabetes all demand special diets.

In addition to proper diet and relief from constipation, certain general tonic measures are highly beneficial. Rest, relaxation, moderate exercise, sunshine, freedom from worry—all these things are important parts of the treatment for eczema.

Textbooks on dermatology give long lists of drugs to be used in the constitutional treatment of eczema, none of them specific for the affection; and as has already been pointed out, this phase of the treatment depends on the systemic disease associated with the eruption, and is accordingly directed by the physician.

There are certain invariable procedures in the local

treatment. Many cases are cured by local treatment alone. One rule always to be observed is that in new and acute cases, the skin is to be protected and soothed. In the older cases, where the oozing has changed to scaling, dryness and thickening, stimulation of the skin is necessary. Occasionally this stimulation is too strong. A more acute inflammation sets up, which must be soothed as though it were a new case.

The inflamed areas of the skin should be cleansed to remove dirt and the scales and crusts and other products of the disease. All this material irritates the skin as well as interferes with the action of the curative agents. There are various ways of removing these irritants.

Where there is a great deal of dirt and crusting and an accumulation of scales, it may be found advisable to wash them away with warm water and a neutral soap. The more commonly advertised, cheap neutral soaps are as good for this purpose as, if not better than, the numerous expensive medicated soaps, which may irritate the skin.

Another good way to cleanse the skin is by washing it with a borax solution or by the application, for several hours, of gauze soaked in the borax solution. This not only removes the foreign matter and cleanses the skin, but soothes it and acts as a mild antiseptic.

Oils and fats such as cold creams, vaseline and albolene may also be used to cleanse the skin without irritating it. When there is much thickening or thick crusting, drugs that melt away the horny cells of the skin are added to the oils or fats.

After the foreign matter has been removed, soap and

water are omitted, as they may irritate the raw, tender skin, and oily or fat preparations are used instead.

Following this thorough cleansing, soothing, drying protective applications are employed. These usually contain powder in a lotion, or paste. The powder may be one of several powders like zinc oxide. The lotion is dabbed on with a piece of linen or cotton or painted on with a fine camel's hair brush. The fluid which holds the powder in solution evaporates, cooling and soothing the skin, and leaving a deposit of the powder in very fine, almost microscopic granules. The effect of the powder is to protect the diseased skin, cool it by radiation of its heat, and remove its water by capillary attraction. Also it causes the open blood vessels to close to normal.

Cold cream is well-named, in that it puts the skin through an actual process of refrigeration. It is a fatty preparation which contains water. On an inflamed skin the water evaporates and the cream removes the excess water and with it heat from the skin by absorption.

Pastes are sometimes used instead of lotions in treating eczema. Their action lasts longer than that of lotions. They are fatty preparations containing a large amount of powder. The paste covers and protects the skin and keeps the powder in contact with it. Pastes are applied with a lint or gauze dressing.

Ointments are fatty preparations containing a very small percentage of a drug, and depending for their action on the effect of the fat and drugs they contain. The action of ointments is in some respects directly the reverse of lotions and pastes and creams. The fat is impervious and keeps the water in the skin. This pre-

vents evaporation, warms and mildly irritates or stimulates the skin. For this reason ointments are much used in cases of chronic eczema, though occasionally they are used for acute cases. Various drugs are used in the ointments. Tar is most often used, especially for the more chronic eczema, to stimulate the skin and stop the itch. Ointments are usually rubbed into the skin.

Drugs are contained in all these applications to stop the itch which is an invariable accompaniment of eczema, for irritation from scratching must be strictly avoided. Where children are affected, special precautions must be taken. It may be necessary to put a mask on the face or to tie the hands.

There are many methods of treating chronic eczema, but by far the best is with X-ray therapy. It is far better than medications for stopping the itching. Frequently it clears up the patches when everything else has failed. Once again it should be said that X-ray is a dangerous thing to fool with. To treat eczema—or any other skin condition—with X-ray the operator must have an exact technic. He must know the proper method of application, the precise dosage, how far to go and when to stop. Mere ownership of an X-ray machine does not mean that the operator is fitted to use it. The statement stands for other forms of physiotherapy, some of which are of value for eczema.

INFLAMMATION

Dermatitis means precisely inflammation of the skin. Naturally it is a term used to cover a large number of affections. Many of these are considered as iden-

tical with eczema. In fact, a piece of skin from a case of dermatitis, examined under a microscope, looks exactly like one from a case of eczema.

Some dermatologists claim that dermatitis varies from eczema in being due to artificial irritation. Whether this be true or not, the fact is that constitutional predisposing factors are at times very difficult to locate. It is generally accepted, however, that in any case of dermatitis there is such a constitutional condition, even though it is not identified. This condition makes the skin of one person's face so fertile ground for dermatitis that it will react to external irritants that may not affect the skin of another person.

Other points that distinguish dermatitis from eczema are made. In dermatitis there is a contact of an excitant with the skin, a more sudden attack of the violent symptoms such as swelling, oozing and vesicles, the attack is of shorter duration and the inflammation tends to remain more localized; that is, not to spread.

Dermatitis of the face is very common because the face is exposed to so many external agents—the cold, sun, water, chemicals, rubbing, etc.

CHAPPING

Normally the skin is kept sufficiently moist and greasy by the secretions of sweat and oil glands, and the outer layer of the skin affords protection against irritation. If these defenses are interfered with the result is an abnormal dryness, redness and a tendency to scaliness. The skin gets harsh, inelastic and tends to crack, especially where it is active, as around the muscles of the mouth, or where it is exposed to great

irritation, as around the mouth, nose, eyes and ears.

The inflammation from these irritations is greatest during cold, dry, windy weather, especially when the skin is washed and insufficiently dried. The result is what we speak of as a chapped skin.

Dryness and irritation are the things to avoid, therefore. Veils serve to protect a tender skin in winter weather. Neutral soaps, with more fat than alkaline content, should be used instead of those that might irritate. The face should not be washed too often, and especially not immediately before going out into the open. The face should be dried carefully and thoroughly. Contact with secretions such as tears and saliva should be guarded against. A bad habit is that of moistening the lips with the tongue, which frequently produces chapped lips.

The faces of some persons chap very easily. Such persons should use soft water for washing, that is, water free from magnesia and chalk. Any water may be softened by prolonged boiling and the addition of soda. Bran in washing water makes it soothing. Toilet waters sold for tender skins are essentially solutions of borax, camphor, perfume and coloring matter. They cleanse, soothe and help to heal a reddened skin because of the borax and camphor. Camphor ice, sold for chapped lips, is very effective.

Persons with a distinct tendency toward chapping should use water scantily for washing. A bland oil such as olive or almond oil should be used for cleansing, and a vanishing lotion or cream should be rubbed into the skin before going out. A fine powder over the vanishing cream serves to cover up the greasiness and at the same time takes up any secretions that may be

oozing out. In severe cases a cold cream is rubbed into the face at bedtime, and an oily lotion or soothing paste is then applied.

SUNBURN

Sunburn, it is scarcely necessary to state, is an inflammation of the skin produced by the action of the sun's rays. The exposed parts of the body are naturally those affected, and the face is the chief sufferer.

This effect is chiefly produced by the ultra-violet rays, chemical rays, given off by the sun. The heat rays of the sun have a physical effect on the skin.

Individuals vary in their reaction to the sun's rays. Blondes, as is well known, are apt to grow very red, to burn instead of tan. Brunettes frequently do not redden at all but merely take on a tan color, due to increased pigmentation in the skin.

If the exposure to the sun is prolonged or if the redness (erythema) has lasted for some time, the skin becomes dry, harsh and what is called dead. The top layers scale or peel off.

Very sensitive skins, or those exposed to intense sunlight, may become severely inflamed. There is much swelling, blistering, oozing and disfiguring. The eyelids, mouth and nose swell greatly. Some persons react so markedly to sunburn that after a short exposure which is only sufficient to cause a slight burn, they are generally upset and nauseated. The patient may be very sick indeed, with nervous exhaustion.

Brunettes as a rule do not suffer from these reactions nearly so acutely as do blondes. The normally high percentage of pigmentation in brunette skins is what pro-

tects them. Albinos—those who lack skin pigmentation entirely—never tan. Their reactions to sunlight are serious.

Pigmentation is the skin's chief protection from the sun's rays. The pigment-containing cells are called chromatophores. Blondes have fewer chromatophores than brunettes. The colored races, naturally, have the greatest number of chromatophores, and therefore have greater resistance to sun rays.

Prevention against sunburn is worth many pounds of cure to those who react. Large, wide-brimmed hats should be worn. They should be of the colors which absorb ultra-violet rays—yellow, brown or red. Parasols are of great help, especially at the seashore, where the strongest rays are felt. Applications of oils, lotions and creams keep the rays from penetrating the skin to some extent.

When the first signs of sunburn appear, a cold cream should be applied. If there is swelling, a wet dressing of a slightly astringent and cooling solution, such as boric acid or witchhazel, should be applied, followed by a powder lotion. These reduce the heat, cool the skin and help absorb the water in the skin.

The action of cold creams is excellent. They cool, soothe and protect the skin and counteract the drying effect of the sun. They do not make hair grow on the face, as some people believe. (If cold cream did that, it would do as much for the scalp, and there would be no bald heads.)

Where there is pigmentation in patches and freckles, the measures described in the chapter on pigmentation should be employed.

In cases where a great area of the body has been se-

verely burnt, aches and pains, disability and death may result. Other general symptoms which may develop, even in milder cases where only the face is burnt, are controlled by a good bowel cleansing, drinking a great deal of water, keeping the skin cool, wearing light clothes and resting. Bran, starch and bicarbonate of soda baths are recommended. The diet should be free from stimulants, irritants and indigestible foods. If there is nervousness and irritability, the physician may prescribe bromides—which should never be taken except upon medical advice.

FROSTBITES OR CHILBLAIN

The face may become inflamed from exposure to extreme cold. Usually it is most evident on prominent parts, such as the cheek bones, tip of the nose, ears and chin. This is frostbite or chilblain.

The skin becomes cold, dark red and purplish, and stings. Then it may lose all sensation. As it thaws out it becomes warm, burns and itches. If the exposure is prolonged, hard, dark lumps form, especially over the cheeks. Those whose circulation is poor and those in general poor condition may blister, as a result of frostbite, and in extreme cases the skin becomes gangrenous or dead.

Those who are easily frostbitten should naturally protect their skins from the cold as much as possible. When the frostbite first appears the skin should be rubbed with snow, ice or cold water. As the skin resumes its normal appearance, the temperature of the water is gradually increased. Soothing lotions or pastes are then applied. Drugs such as camphor and ichthyol

are healing. If there are blisters or ulcers great care should be taken to avoid infection.

Ultra-violet rays have been found of the greatest value in treating frostbites. Electric current from a galvanic battery is also valuable.

Those who repeatedly suffer from frostbites should seek a medical examination. There is evidently something wrong with them—frequently blood vessel or heart disorder.

DERMATITIS FROM NERVOUSNESS

This form of dermatitis is of artificial origin. Those affected with it are either extremely nervous or are malingeringers—fakers.

It is a most interesting and a surprisingly common condition, and it produces great disfigurement, at times.

Most of us know some one who is constantly picking, scratching or fumbling at his face. Sometimes it is sheer nervousness, other times it seems to be absent-mindedness. Very often it is only when reading that the individual thus irritates his skin. Whatever the reason, the result is red spots, scratches and ulcers. At times the inflammatory reaction is quite severe.

In other cases the individual knows he is injuring his skin and does it to make an appeal for sympathy or to escape work. Beggars, criminals, shirking soldiers and sailors, persons suffering from hysteria are given to the practice. A surprising variety of ways they have evolved to effect these injuries, and it is even more surprising to see how far they will go, and how vast is the injury they inflict upon themselves.

In either class of cases the treatment is obviously to

prevent the skin injuries by education or the enforcement of discipline, followed by the direct application of soothing and healing local remedies.

DERMATITIS FROM POISON IVY AND OTHER PLANTS

These frequently recurring inflammations of the face and hands are familiar to everyone. Dozens of plants are apt to produce the condition. The most common are: poison ivy, poison oak, dogwood, poison sumac, primrose, nettle and oleander. They may attack any part of the skin they love to touch.

These plants contain a chemical identified as an acid glucosid. In contact with the skin it produces inflammation. The inflammation may take the form of a slight redness or there may be formation of vesicles, crusts, marked swelling, oozing and even ulceration. Some of these attacks are severe enough to bring on a general upset and fever. Some persons are immune to these plants—can handle them at will with no bad effects. Others are very susceptible and have frequent attacks. Almost always the burning and the itching are intense.

Poison ivy is the worst offender. It may easily be recognized, because its leaves grow in groups of three. Those who are susceptible to its attacks should learn to see it afar off and then run.

Many people are attacked year after year. Such victims should be given a course of injections of the fluid extract of the plants before the outdoor season begins. The attacks may be prevented or shortened by this treatment. Even those suffering from their first attack may profitably take this treatment, as the re-

sults are less severe, the itching and swelling less and the duration shorter. The fluid extract may be given internally, though its effect is not so great as by injection; but it should be taken only under the supervision of a physician, as it may produce kidney irritation.

The first step in the direct treatment consists in washing the skin vigorously with soap and water, or dilute alcohol, to remove the chemical. This is sometimes a preventive measure. When the eruption appears, a wet dressing of an alkaline solution such as soda neutralizes the acid and soothes the inflammation. After this, soothing lotions are applied. It should be emphasized that the injection of the extract of the plant is a most efficacious treatment.

There is another form of "poison ivy" that attacks persons who come in contact with Japanese lacquer. Several years ago the author reported the occurrence of what he called Mah Jong dermatitis. The eruption resembled the ordinary case of poison ivy, but it was produced by contact with the lacquer on the boxes of Mah Jong sets. It is quite unlikely that Mah Jong dermatitis will ever sweep the Occidental world in pandemic fashion, though the disease could hardly be said to be the reason for the death of the game. At any rate, science has not discovered where all the Mah Jong sets went to and no desperate efforts are being made to bring them back.

But the lacquer is the same as that used on screens and tables, and the inflammation may be contracted by contact with them as well. The lacquer contains the juice of a species of sumac, and as has been said, sumac inflames the skin of some people.

OTHER FORMS OF FACIAL DERMATITIS

Severe cases of dermatitis may be caused by contact with certain chemicals. The conditions are just about the same as those caused by poison ivy. Paraphenylenediamin, lead and mercury are among the most important of these chemicals, as they are contained in many hair dyes and toilet preparations.

New York City recently published an amendment to the Sanitary Code prohibiting the sale and distribution of preparations containing these chemicals.

Paraphenylenediamin is a coal-tar derivative and a strong poison. It is most commonly used in hair dyes. The dermatitis is manifested by itching, followed by swelling and blistering of the skin. The attacks are frequently severe. Statistics show that one in every three hundred people using hair dye is susceptible to a dermatitis.

Mercury is used in many liniments, ointments and lotions. Most freckle removers contain mercury. While it is a valuable agent for many purposes, it is sometimes an acute irritant, and it should not be used except when specifically prescribed by a physician. Its employment in a patent preparation for general use is obviously dangerous, and for that reason the New York Board of Health, a most efficient, alert body, now confines its use to doctors' prescriptions.

Lead, much used in the manufacture of both face powders and hair dyes, has a cumulative action on the skin—that is, continued use of preparations containing it practically loads the skin with it. Since the skin absorbs the lead, it may bring severe results both externally and internally.

The damage wrought by these chemicals is sometimes terrific. Not only the skin of the face is affected, in some instances, but the system as a whole and especially the kidneys.

Another frequent inflammation of the face and neck is traced to dye used on furs, a dye similar to that in hair dyes. The inflammation is usually severe, prolonged and recurrent. Another form of dermatitis on the forehead is caused by the action of sweat on the dye of cheap sweat-bands in hats. Mouth-washes and tooth-cleaners may cause a dermatitis around the mouth.

For these forms of dermatitis the treatment consists in removing the source of irritation, whatever that may be. After that soothing remedies such as lotions are applied, a cathartic should be taken and plenty of water imbibed, to hasten the elimination of poisons by way of the urine.

OCCUPATIONAL DERMATITIS

As the result of exposure to various physical and chemical agents in the course of their work, individuals may develop inflammations. Extremes of heat and cold which engineers, firemen and bakers must endure; chemical action to which dyers, laboratory workers, furriers, barbers and plasterers are exposed, may produce the inflammation.

The treatment in such cases is obviously preventive, to a great extent. The face must be protected from irritation. Cleanliness is essential. A good general condition prevents severe reactions. Especially should the functions of excretion and elimination be watched, for

by these processes are the poisons thrown off. Soothing remedies are applied. In obstinate and chronic cases X-ray treatment stops the itching and promotes the cure.

If, despite all precautions, the dermatitis persists or recurs, the only thing to do is a change of occupation—an easy thing to say, but often a difficult and tragic necessity.

FEVER BLISTERS, COLD SORES

Herpes *facialis* means small blisters on the face. The condition is very common, and one of its troublesome features is that it is often recurrent. With or without previous burning, itching or pain, vesicles (blisters) appear on a slightly reddened area. The blisters vary in size from pin point to pin head. They occur in groups, and though they are usually separate, they sometimes run together to form large blisters. As a rule they dry up of their own accord, leaving crusts which fall off in a week or two. When the blisters are torn, small, moist, raw spots are left which heal more slowly. There may be pain. The blisters are most likely to occur where the skin meets mucous membrane—around the mouth, nose, eyes and ears. The attacks tend to recur again and again.

Frequently cold sores or fever blisters accompany constipation or indigestion, or severe illnesses such as pneumonia, meningitis and malaria. Women are more susceptible to herpes than men, and in many cases there is a recurrence with the menstrual period. Nervousness or inflammation of the nerves may bring on herpes. Infections in the teeth and tonsils may produce them.

The severe type known as herpes *zoster* depends upon

an inflammation of the nerves, and is similar to the shingles that occurs on the trunk. The inflammation in herpes zoster is more severe, the spots come out along the course of the nerves, the pain is more intense, it often produces scars, but it is rarely recurrent.

The inflammation may involve the eye and damage it or it may occur in the mouth and interfere with swallowing. In the ear it is most painful and troublesome. The pain is intense, acting like neuralgia. Sometimes it is necessary to administer sedatives. There may be general upsets with fever.

The constitutional treatment in these cases consists in correcting the disturbances of the digestive and nervous systems, in aiding the menstrual function and in promoting proper elimination. A strict diet is ordered. Nerve sedatives may be prescribed. The foci or sources of infection are removed.

The treatment of the affected skin begins with precautions against injuring and irritating it. It should be noted that the blisters are not to be opened. This not only interferes with healing but lays the skin open to infection. Protective and soothing powders and lotions are used. Spirits of camphor and tincture of benzoin are valuable. For cases where swelling accompanies the inflammation, boric acid, witchhazel or weak alcohol solutions are used. Electricity is of value in very painful cases. It is important to guard against infection to the eye, nose and ear.

RADIODERMATITIS

The use of the X-ray or radium may be followed by the production of various forms of inflammation

of the skin. These conditions are called radiodermatitis.

As a result of the action of the rays on the skin, several months or even years later, the skin may show evidence of persistent redness, dryness, itching, telangiectasias (permanently dilated, prominent blood vessels, appearing in streaks), fine wrinkling or atrophy of the skin; and, in severe types, elevated, warty growths. The skin may show a tendency to crack and ulcerate, and even to form cancerous growths.

However, X-ray is being used extensively by the physician with excellent results for treatment of various skin conditions. Ill effects do not occur when they are properly administered. Much depends upon the technique of the operator. And, equally as much depends upon the knowledge of the operator as to the effect of the rays on the tissues of the body, the proper dosage for the particular skin affection, and the expert manipulation of the machine. It is most important for the person who is employing this method of treatment to be able to recognize the first signs of ill effects and know what is best to be done.

In most cases, when the patient complains of redness, burning and slight pain, best results are obtained by proper treatment of the skin and the use of soothing preparations like powders, lotions, creams and pastes. In those cases where telangiectasias develop, electrolysis and the infra-red rays are the best treatment for removing these vessels.

When ulcers begin to appear, soothing creams, lotions and aseptic measures are used. Care must be taken to avoid infections. It is surprising at times to see what excellent results are obtained in deep persis-

tent ulcers, where merely soothing, aseptic measures are employed.

The warty growths should not be irritated, because of the possibility of stimulating the development of cancers. These warty growths may be removed by means of endothermy, radium, surgery, carbon dioxide snow and other electrical methods. Cancerous growths of this nature may be removed surgically, or by means of endothermy. Such an operation may be aided by radium applications to prevent recurrence. It may seem like a paradox, but it is true that X-ray and radium growths often respond to proper dosage of radium.

One of the best-known therapeutic measures today in the treatment of these conditions is exposure of the damaged skin to the rays of the Benoit lamp—infra-red rays. This apparatus was recently invented by Benoit of France, and has been used in numerous cases with remarkable results.

The treatment consists in very frequent exposures, with increasing dosage, for a period of three to six months. The results are worth the time.

From the foregoing it should be readily understood how close is the relationship between the skin and the rest of the body. Irritants within the body may produce eczema; irritants that produce eczema or dermatitis may reach through the skin to strike at internal organs. Both internal organs and the skin have their natural protective forces; but if these forces are injured in any way their efficiency is decreased. Eczema and dermatitis are common because the face is exposed. They would be less common if constitutions were universally better.

HIVES

Hives, a very common complaint, is an eruption which involves part or all of the skin. When there is an outbreak of hives over the body generally, the face is also affected, but sometimes the face alone shows the spots and the rest of the body is free. Individuals show a tendency to erupt with hives in certain parts of the body and in those parts only.

Hives is characterized by the presence of a lesion known as a wheal. The wheal appears in no disease but hives. It is a slightly, elevated spot rust-red or pink in color. There is a central pale zone surrounded by a deeper border.

Usually the wheal is what is called evanescent. It comes and goes. It may last only for a second, or it may remain twenty-four hours. It sometimes appears so suddenly that it can be seen swelling. The wheals vary in size from that of a pea to a patch big enough to cover the whole face. Usually round or oval, they are sometimes irregular or ring-shaped, or they may develop like a map or become scalloped in shape.

There is usually itching, and sometimes burning or tingling or creeping sensations in the skin. Frequently the itching is intense. Another condition occurring with the hives is dermographism. This phenomenon consists in the appearance upon irritation, of elevated white spots bounded by pink borders, which take the outline of the irritation that causes them. The irritation may be only slight pressure, or it may be pinching or scratching. In medical schools it is demonstrated to the students by stroking the patient's skin, or writing on

it with a finger. The elevations appear wherever the finger touches the skin.

The wheal is produced by practically anything which affects the blood vessels of the skin. It is supposed to be due to a combined action of the nervous system, acting on the blood vessels. The blood vessels are first closed in the central zone which results in the white area of the wheal. Those on the border are open to make the pink area. Under the microscope those in the upper part of the corium can be seen to be slightly opened, and a fluid discharged from them into the tissue. There has also been an escape of some cells from the vessels into the corium.

If there is a severe reaction it is found that there is a great amount of fluid in the corium. This manifests itself by the appearance of small blisters on top of the wheals. Where a great many cells escape into the tissue more pronounced elevations appear. This is called papular urticaria.

Although hives may be produced by almost any kind of external or internal irritation, the more serious types are associated with constitutional disorders. Even when external causes are apparently the only ones, there is almost surely some disturbance or defect in the vaso-motor system—the mechanism which controls the blood vessels and their nerves.

Common external irritants which cause hives are dyes and chemicals. Another common form of hives results from contact with nettles or exposure to wind and sun. These irritants, however, would probably not produce hives unless there were an internal deficiency.

The internal disorders which produce hives fall into special groups. There are those due to anaphylaxis,

or the sensitivity to proteins usually; those due to the taking of such drugs as quinine, aspirin, cathartics, or any drug for which the individual has an idiosyncrasy; disturbances of the metabolism, such as nephritis and gout; disturbances of the blood as in anemia; and nervousness, diabetes, liver diseases, gall-bladder diseases and defects in the glands of internal secretion. Still another group is due to chronic constipation and auto-intoxication. Another group is due to the reaction from eating certain foods. Children especially suffer from this type of hives.

An attack of hives is usually of short duration. Twenty-four hours at most should cover the appearance and disappearance of the wheal. There are, however, short attacks which recur for several weeks. Other cases last for a long time. The itching is intense in the prolonged cases.

Usually hives are ushered in with indigestion, headache and general discomfort. Nervous prostration and fatigue accompany many cases. In prolonged cases it is frequently found that rest and relaxation are the patient's chief needs. When the condition is associated with metabolic or other constitutional disturbances, it is necessary to treat the systemic disorder.

The great point is to discover the cause. In acute cases a simple diet is usually ordered, and a thorough cleansing of the bowels. Laxatives such as calomel, or even sodium bicarbonate, clear up many a case of hives. Large amounts of water should be imbibed—alkaline water is especially good—and a diet consisting mainly of skimmed milk, cereal, fruit juice and toast is advisable.

Chronic cases require a general examination and the

care of a physician. Laboratory tests of the blood, urine and stools may be necessary, before the constitutional cause can be determined. Thereafter, treatment of the systemic disease and tonic measures are employed.

Certain drugs are of benefit in treating the hives. Some of them, such as the salicylates and atophan given for gout and rheumatism, must be taken only under a physician's direction, for they may of themselves cause hives.

Adrenalin, one of the most powerful and valuable of all drugs, is particularly valuable in acute cases. It has the special effect of causing the blood vessels to contract, thus diminishing the formation of the wheal. Frequently adrenalin causes the immediate disappearance of the wheals and itching. Belladonna and atropine are also given. But all these drugs are to be taken only on a physician's orders. They may injure the eyes, heart or nervous system, and may cause peculiar eruptions.

Sometimes foreign proteins are injected, as are arsenic, serums and peptones. Calcium is often given internally and may be of value. On the skin, soothing, protective and antipruritic preparations are employed.

PSORIASIS

One of the inflammations infrequently affecting the face is what physicians call psoriasis. The cause of this disease is not yet positively known, but it often produces marked disfigurement. The lesions sometimes disappear spontaneously, though in some individuals they will not clear up unless treated. Even then, in such patients the disease shows a tendency to recur after a period of time elapses. This is the case especially if the general condition is poor.

There are several theories as to the possible cause of this inflammation. Some physicians attribute it to metabolic disturbances, others to endocrine disorders, nervous condition and infection. Heredity seems to be a factor in numerous cases.

The disease is characterized by the presence of small and large, slightly elevated, red papules, covered by characteristic shiny, silvery scales. They may be separated, or may become confluent and form large patches. The lesions as a rule appear on the elbows and knees, and may be localized there, though they may spread to the scalp, face and other parts of the body.

The disease does not seem to bear any definite relation to systemic conditions in most cases. It appears in individuals in perfect health as well as in delicate and sick people. However, in cases of constitutional debility and internal disorders, psoriasis is very resistant to treatment and will not respond unless general health is restored.

Climate seems to have a distinct effect on the eruption. Patients feel worse in cold climates than in warm, and the eruption becomes worse in the winter time.

The treatment consists in the application of certain local measures, which include ultra-violet rays, and sometimes X-rays. Various drugs and especially the institution of constitutional treatment to improve the general condition, general metabolism, and to counteract constipation, have been known to give relief. In some cases, internal medicines, like arsenic and thyroid, are indicated. Needless to say, such drugs should be used only upon prescription by a physician. This is particularly true of arsenic, which may cause the development of certain skin lesions leading to skin cancer.

Thyroid taken indiscriminately may affect and injure the thyroid gland.

The permanent relief of a severe case of psoriasis cannot be promised, because of the habit it has of recurring.

If a case is once cured, the patient should be careful to do all he can to insure against a recurrence. Treatment must be followed through until the very last lesion has completely disappeared, and then the patient should get plenty of sleep, rest, exercise and fresh air. Freedom from worry and anything that leads to nervousness is very essential to prevent the recurrence of this annoying disease.

CHAPTER VII

THE HAIR OF THE FACE

Superfluous Hair (Hypertrichosis)—Baldness (Alopecia)—Gray Hair (Canites)—Split or Knotty Hair (Trichorrhesis Nodosa)—Nervous Pulling of Hair (Trichotillomania)

WHETHER we have too much or too little, there is probably no other part of our bodies to which we devote as much attention as we bestow upon the hair of our heads and faces. The more hair we have on our heads, the more time we must spend in grooming it. If we have too little, or none at all, we spend just about as much time and a great deal more money trying to bring the dead to life.

As for hair of the face, if we happen to be men we spend minutes—and precious morning minutes at that—every day of our grown lives shaving and trimming our beards. But if we are women, and our faces show anything more than peach-bloom down—well, not to be trivial about tragedy, we worry about it and feel ashamed of it more than we would of any other disfigurement.

It is a curious thing that beardless men and bearded women feel equally ashamed of their respective deviations from the normal. The reason obviously lies in the fact that beards are a secondary sex characteristic.

Justly or not, women are hypersensitive about superfluous hair on their face. Many an otherwise sound,

sensible woman has been driven to a distraction that verges on insanity by superfluous hair on her face. And many other women, desperately seeking the removal of the disfigurement, have been driven to real madness by the havoc which quacks wrought on their faces.

Let it not be thought that there is a lack of sympathy here for women afflicted with hypertrichosis. The reverse is the case. There is perhaps no more pitiful being, from a rather logical point of view, than the otherwise beautiful woman with a hairy face. She knows, despite the copy-books and the moralists, that her beauty is just about her all. A mole would mar that beauty; it can be ignored, but only a little. A scar would mar it; but the scar would excite pity.

Hair destroys it utterly, wipes it out; the beholder never sees it. Hair on a woman's face cannot be ignored, it excites no pity; rather, it excites secret derision. At least, so the afflicted woman feels, with reason.

And so superfluous hair is a real tragedy. But it need not be. Superfluous hair can be removed, and removed safely.

If this book does nothing more than convince afflicted women with disfiguring facial hair that they can be helped—and then teaches them to keep away from quacks—the present chapter will have justified the existence of the whole book.

SUPERFLUOUS HAIR

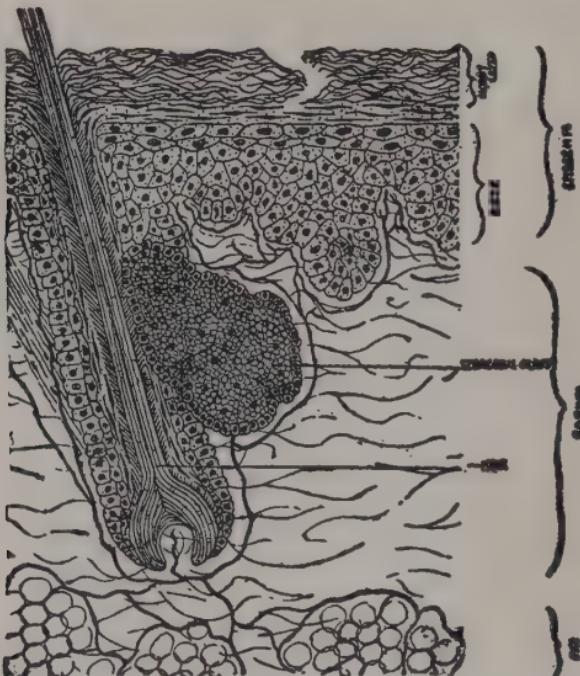
Hypertrichosis is a very common condition with both men and women, and there are many forms which vary both as to cause and effect. The rarest of all is

the type in which there is a great excess of hair over the entire body. A victim of this condition is so disfigured that invariably he is called "dog man" or "ape man." Jo-Jo, The Dog-Faced Boy, and his successors were afflicted with hypertrichosis of this sort, and probably suffered, in addition, from a rosacea that gave them their snout-like noses. So many of them have spent their lives in circus side-shows that one might think they are rather common. According to medical estimates, however, one such case occurs in every billion births, a percentage expressed as .00000001.

In a typical example of what might be called universal hypertrichosis, the scalp hair is softer than normal, and the entire face, including the upper eyelids and nose, grows a thick coat of long, soft hair. The ears are extremely hairy, with long, drooping tufts projecting from them. Instead of the stubby hairs grown by normal people, the eyelash, eyebrow and beard hairs are soft like that of the forehead and scalp. Except for the palms and soles, the whole skin is densely covered.

The cause of this abnormality has not been discovered. A characteristic of such cases is that the teeth are deficient. From this clue it has been deduced that whatever causes the hypertrichosis stops dental growth. Both hair and teeth, in the normal body, are grown by similar processes; and with "dog men" it is as though such processes concentrated on growing hair and neglected to grow teeth. From the same characteristic of dental deficiency it has been suggested, also, that whatever caused tooth and hair variations happened long before birth.

Localized hypertrichosis, that is, excess hair in certain definite areas, is congenital more often than not. There are on record well-authenticated cases of babies born with full beards. Others are born with tufts of hair on the neck or loins. Still others have been re-



Cross-section of skin showing hair and its appendages.

ported where the infant at birth had a tuft of hair eight or ten inches long on the base of the spine—a tuft that looked like the tail of a faun. Some of these localized patches of hair grew on skin that showed no other abnormality, while others grew out of skin on which were such markings as pigmented moles.

These types of hypertrichosis remain mysterious. There has never been a convincing explanation of their

cause. About all science knows of them is that they are congenital; but what mechanism brings about these conditions is remote from present understanding. Luckily they are rare.

Another group of cases is that in which the superfluous hair may be traced to some derangement of the endocrine system—the glands of internal secretion. Affections in this group are usually associated with disorders of the ovaries and with disturbances of the adrenal and pituitary glands. The hypertrichosis of puberty, of ovarian diseases and of the change of life are all due to disturbances of the ovarian glands which cause these glands to secrete inadequately. The inadequacy brings about an overstimulation of the adrenal and pituitary glands.

Such disturbances are the root cause of the premature appearance of terminal hair, in advance of normal puberty, that is. Both boys and girls are subject to this type of hypertrichosis, but girls afflicted with it grow more than the amount of hair normal to an adult. There is almost always a precocious sexual development in these cases. Sometimes menstruation begins as early as the third year.

A variety of this form of hypertrichosis, also related in many cases to premature sexual development, produces the "Bearded Ladies" of the circus. These artistes display genuine beards of captivating length and luxuriance. As a rule they assert—or press agents assert for them—that their abnormality is far from a misfortune; but the chances are they would gladly exchange the flattery of the public gaze for a normal, hairless face, even if they had to go to work.

That is, assuming that they are really women. Many

“Bearded Ladies” support wives and children by their hirsute virtuosity. Still others are no doubt hermaphrodites—individuals possessing both male and female characteristics—in which cases beards should not matter one way or another. There are, however, not a few cases of women whose beards are better developed than those of the average man.

Another variety of hypertrichosis, characterized by the arrangement of the superfluous hair, is called the negroid type, because a similar arrangement is often seen on the faces of negro men. The typical arrangement consists of a more or less developed moustache, and growths of hair on either side of the chin. Women of all ages show this type of growth; but it is more common to those past middle age. Probably it is comparable to the excess growth of hair on the ears and eyebrows of old men.

There are all sorts of rumors, half truths and fallacies about hypertrichosis. One widely-circulated hypothesis runs to the effect that superfluous hair, especially on the forehead, is a sign of degeneration or weak-mindedness or something of the sort. Out of some 160 women, however, the percentage showing hypertrichosis was the same for college women, clinic or poor patients and insane women. Another idea is that bruises, plasters on wounds and other external causes tend to produce hypertrichosis. No evidence definite enough to bring conviction has ever been advanced in reports of such cases. The mechanism of hair growth is controlled almost entirely from within; blows or external influences might destroy the local hair-productive processes, but could scarcely stimulate them.

Most of the foregoing text refers to pronounced

cases of hypertrichosis. Any inconvenient or disfiguring amount of hair on the face is hypertrichosis technically, and therefore there are many women so afflicted, though no one would for an instant consider them abnormal. The truth is that many women with pronounced excess growths of hair, as well as those subject to the mild form, can in no way be said to be abnormal. They have never demonstrated any peculiarity, either physical or mental, which would distinguish them from women with comparatively hairless faces.

To sum up: Hereditary factors and gland disturbances are the chief causes of the pronounced cases. Derangement of the nervous system may possibly be a cause. Mechanical or other irritation, if it causes hypertrichosis, is not understood. All these cases are a minute fraction of those that come to the attention of the physician. The majority, whatever the cause, are simply moderate excess growths, as normal, probably, to these patients as eyebrows or hair under the armpits.

General hypertrichosis, congenital or not, cannot be remedied. Localized hypertrichosis, unless the affected area is too great, can at least be alleviated by treatment. The ordinary, moderate, excess-hair cases can almost always be successfully treated.

Two methods of treatment have been utilized for the permanent destruction of superfluous hair: X-rays and electrolysis. The X-ray is mentioned first, because it is the last that should be used—at least until some one has devised a safe technic.

X-ray treatment is extremely dangerous. It can cause serious burns. It is necessary to administer it in large doses in order to destroy the hair follicles—small doses

are reported to have stimulated hair growth—and if inflammation sets in as a result of this exposure, the patient is in a far more wretched condition than before the treatment.

Just a few of the possible results of malpractice with the X-ray are: Wrinkled, roughened and reddened skins, telangiectasias or atrophy, open sores and burns that may become cancers. There have been cases where the itching occasioned by the X-ray burn almost drove the victim insane. Nervous breakdowns have resulted from it.

The great majority of these cases are handled—mishandled, rather—by utter quacks, who advertise in newspapers catering to low grades of literacy, and in every foreign-language newspaper that will accept their business.

A pretty practice does the hair-removing quack work up. The recipients of his beneficence are often girls afflicted with poverty as well as disfiguring hair. The charge, of course, is as much as he guesses they can pay at a time. He is a good guesser. Every week a large part of their income goes to him, and all the while he is ruining their lives.

Not long ago in New York a shining light of this business was being sued by three girls. Each girl had been marked by him for life, and one of them still had the superfluous hairs!

Most ingenious “literature” did this noisome lad distribute! He described the evils of X-ray therapy at great length, calling down the maledictions of a country editor upon the charlatans who advocated it. After which he solemnly announced:

“This institute employs the Roentgen Ray therapy

exclusively." Evidently not one of his thousands of victims knew that Roentgen and X-rays are the same thing.

He is only one among hundreds of such jolly fellows, who ply their trade undisturbed. Medical societies can do nothing to them, for the simple reason that they do not belong to medical societies. Somewhere, somehow, they have obtained licenses to practise medicine and to operate X-ray machines, and to have those licenses revoked they must be convicted of malpractice. Such convictions are hard to obtain. Nobody wants to take the time to prosecute them. Their victims are naturally more concerned about getting some money than bringing the quack to justice. Their cases seldom get as far as the court-room; if he cannot scare them off, the quack buys them out—quite cheaply in most instances. The merry wight just eulogized had the pleasant habit of handing over a nice crisp ten dollar bill or two the first time a victim suggested that all was not well. She thereupon happily signed a receipt, which later proved to be a release in full for all damages sustained by her at his hands.

Not the least insidious feature of malpractice with the X-ray is that in many instances its ill effects are not apparent for a long time after treatment has ceased. One of the girls who sued our friend was so enmeshed in his toils financially that she took a job with him at a starvation net wage in order to pay him off. It was while she was giving his treatment to other girls that her own face began to break out into sores.

Yet X-ray therapy is extremely valuable for the purpose of temporary depilation, when it is skilfully handled. Certain scalp infections such as ringworm

may best be treated by removing the infected hairs with the X-ray. In time a technic may be devised which will permit the permanent safe removal of excess hair from the face by means of X-ray, but that time is not yet. For the present electrolysis is the safest and most practicable method.

A fine needle of steel or iridoplatinum is inserted into the hair follicle, and through it is sent a direct electric current of 1 to 3 milliamperes. This current destroys the papilla—the root of the hair, and the source of its nourishment—and the lower part of the follicle.

Handled by a skilled operator, hair seldom grows again after it has been treated with the electric needle. Each hair must be needled, but the discomfort is slight. The tediousness is the worst feature of the operation.

Many women use a razor to remove superfluous hair, but it soon grows again, of course, thicker and stubbier than before. Also, shaving may spread the growth. There is no chemical depilatory which permanently removes hair. Most depilatories act by rotting the hair, or by making it brittle so that rubbing breaks it off at the surface of the skin. Another kind of depilatory is a gummy substance which sticks to the skin and hairs. When it has "set," it is pulled off and the hairs come with it. It is claimed for some preparations of this sort that after three applications the hair is gone for good. Utter nonsense, of course. Sometimes gentle rubbing with pumice stone is advised. This gives only temporary relief, if any, and roughens the skin besides.

Sometimes there is so much superfluous hair that electrolysis is impracticable. In such cases it occasion-

ally helps to bleach the hair with hydrogen peroxide, making it less conspicuous.

Making medical prophecies is a dangerous undertaking, but one ventures thus far, at least: The time will come when some cases of hypertrichosis may be controlled or prevented by treatment of the glands of internal secretion. The fact that so many cases of hypertrichosis are associated with derangement of the endocrines makes this prediction logical. No phase of medical research is advancing so rapidly as that which is discovering the relation of the glands to the rest of the body—indeed, their relation to our psychology—and once that relation is understood, the way will be found to control hypertrichosis. Endocrinotherapy in many patients with hypertrichosis often relieves other skin affections, and removes certain constitutional complaints like fatigue, nervousness, menstrual disorders, headaches and other symptoms. It should be employed by the physician to meet certain indications discovered during the general examination.

Men with heavy beards will be amazed to learn that the dermatologists frequently have as patients men who complain that their beards will not grow. Those who have to shave twice a day will not readily understand why there is any complaint.

It may, however, be a harassing condition, indeed, for men of a neurotic type especially. Almost always it is a hereditary condition and little can be done for it. Attention should be concentrated on improving the health and nervous condition of the patient, so that his condition affects him less. Otherwise it may prey on his mind until he is a wreck. Work, preferably in

the open air, pastimes or hobbies that may grow absorbing, tonics, gland extracts and stimulation of the beardless areas are indicated.

BALDNESS

There are occasional cases of bald spots in a normally bearded area, such as the upper lip, the chin or the cheeks. There is not yet any law which compels men to wear beards and moustaches, hence any one with such a bald spot can make it invisible by shaving the part of the face on which it occurs. But sometimes men have such heavy and dark beards that the bald spot is conspicuous even after a twice-over close shave.

This condition, like the similar affection of the hair of the scalp, alopecia areata, is not necessarily permanent. But when it attacks the hair of the face it is usually irremediable. It is ordinarily of no significance, but it may be the symptom of a serious disease; therefore, when a bald patch appears on a bearded part of the face the physician should be consulted.

In general, baldness may affect only one region, or all parts of the face normally covered with hair. The hair may thin out slightly or disappear completely. The beard of the chin and cheeks is most frequently affected, the moustache next, and least often the eyebrows and eyelashes.

Baldness of the face is classified as to cause:

1. Local infections.
2. Constitutional disorders.
3. Congenital.
4. The loss of hair in patches, already described,

which is usually of unknown cause. There are other types, but they are rare.

Loss of hair from local infections of the follicles may be due to conditions described elsewhere in this book: seborrheic eczema, folliculitis, boils, ringworm. Symptoms that herald the approach of baldness are usually redness, scaling, crusting, pustules, lumpy masses, and itching.

Baldness due to constitutional causes is known as symptomatic alopecia. The bald spots are symptoms of some constitutional disease which kills the hair by the action of germs that get into the hair cells and follicles, by the poisons sent into the blood by the germs and by the abnormal functions of the body. Such diseases are typhoid fever, erysipelas, pneumonia, influenza, diabetes, tuberculosis, kidney diseases, gout, rheumatism, nervous disorders, syphilis and endocrine troubles.

Congenital baldness—baldness from birth—may affect all parts of the face normally covered with hair or one spot only, or hair may be lacking all over the body. Other abnormalities are often accompaniments of this condition.

Baldness in spots has already been listed. The fact that there is no apparent change in the condition of the skin of the bald patches is what distinguishes this disease from other forms of baldness. There is no redness, swelling, pus formation or inflammation. The patches may be entirely bare or show a few sparse hairs. Sometimes only the outer portion of the eyebrows is bald.

Baldness of the eyebrows is thought to indicate poor functioning of the thyroid glands. Injuries to the skin

or nerves may bring about baldness in patches. Nervous complaints and endocrine disorders may cause it. Worry, fright, anxiety and shocks are frequently followed by loss of hair in patches—through derangement of the nervous system, no doubt. Internal infections may be the cause. When the sources of infection have been removed or corrected the hair may grow in again.

It may be seen that good constitutional health, as well as proper local hygiene, is essential for the prevention or treatment of baldness. There should be a general examination to discover the cause. Constipation frequently must be overcome, and often a special diet is prescribed. Internal treatment, of course, depends on the disease. Local treatment likewise. Local and constitutional treatments for seborrheic eczema, furuncles and folliculitis are described elsewhere in this book.

These types of baldness are common to the hair of the scalp as well. It is a curious fact that when they affect the bearded parts of the face they are more severe. The reactions are more violent and the infections deeper; they are more chronic, spread more rapidly and resist treatment more obstinately than similar affections in the scalp.

GRAY HAIR

Sometimes the dermatologist has as patients men who desire to keep their moustaches or beards normal in color. Nothing can permanently restore color to hair that has lost it; but graying can be retarded.

Gray hair is a sign of diminished activity of the processes that color the hair, and to a change in its

structure which allows air to take the place of the hair oil. Premature gray hair is usually hereditary.

Diseases such as diabetes, gout, and rheumatism may bring on gray hair. Emotional and nervous shocks may be the cause. Or it may be simply the inescapable accompaniment of old age.

To stave off graying of the hair, careful improvement of the general health is the main thing. Rest, proper diet and relaxation are essential. Infections should be eradicated. Extracts of endocrine glands may be prescribed. Ultra-violet rays may retard the graying. Certain drugs, such as resorcin, valuable in some hair conditions, should be avoided since they may discolor the hair.

Certain occupations discolor the hair. Workers who come in contact with various chemicals and metals find their hair turning startling shades. Copper turns some hair green; cobalt and indigo turn it blue; bicarbonate of soda makes dark hair a dirty brown, while chlorine gas and ammonia bleach it.

It is useless to seek any local treatment that will restore color to gray hair. Dyes are only temporary in their effect, and are often harmful. Vegetable dyes are uncertain in their action. Sometimes they give the hair the color desired, but at other times the result is a green, gray or violet. Lead, contained in some dyes, is a malignant poison.

Circumstances are conceivable which make dying the hair excusable. Actors argue that their careers depend on their youthful appearance. After all, it is up to the individual whether he dyes his hair or not.

But he should understand the risks he runs. The dangers may outweigh the benefits. The fact that

hair must be carefully prepared for the dying is something of a warning. All natural oils must be removed before the dye is applied. This in itself is dangerous.

Hair dyes are not advocated here. Therefore it will be enough to point out the ill effects of the more popular kinds. Silver nitrate, the commonest ingredient of black dyes, may give the entire skin a slate gray color and bring on severe inflammation. Pyrogallic acid, another common dyestuff, and paraphenylenne also cause inflammation. The latter is used for dyeing furs. Henna, probably the most widely used dye in the world, is perhaps not so harmful in its effects; but its use is not recommended. It should be added that hair which has been dyed or bleached cannot be "waved" by any of the heat processes without ruining it in almost every case.

One hears countless stories about persons whose hair had turned white over night. A few cases have been traced to semi-scientific sources. But almost certainly it has never happened. Emotional shocks disturb the nervous system and bring about a loss of color in hair grown thereafter; but it is difficult to understand how hair already grown and pigmented could lose its color.

The hair of many persons never turns gray. But those whose family history shows a tendency to premature grayness may expect to find that tendency in themselves. By proper care of the health and hair they may postpone the graying by many years.

SPLIT OR KNOTTY HAIR

This condition is more common to the moustache than to the beard, and is rarely found on the scalp.

The hairs feel rough. On examination it is found that they have broken off at different lengths. There are swellings here and there along their shafts, and when brushed or pulled the hairs break through at these swellings, leaving brush-like ends.

The cause is unknown. Some dermatologists believe it is due to parasites. Others assert that it is caused by chemical or mechanical injury. Still others believe it is due to the formation of gases within the hair which distend it in small bubbles that burst.

The treatment is the application of antiseptics, local stimulation and the improvement of the general condition. It is distinctly advisable to take internal treatment for the betterment of the constitution.

NERVOUS PULLING OF HAIR

Trichotillomania is the medical word for "desire to pull out hair." Individuals so affected are constantly pulling out hairs, usually with the purpose of seeing if they are infected. The desire is stimulated by nervousness, especially if the face itches. The habit produces eczema, infections, ulcers and scars.

Treatment consists almost entirely in inducing the patient to break the habit. Any local ill effects must be treated also, of course. Improvement of the nervous condition should be sought. Often careful examination may disclose functional and organic diseases, especially in the nervous system. This desire may be only temporary and readily controlled, but at times the most disfiguring scars and wounds may be developed with permanent loss of hair.

The hair of the face may suffer as the result of

other skin conditions, such as eczema, which are described above. There is no one procedure which will meet the requirements of all such conditions. There must be a general examination to determine the campaign for correcting constitutional disorders as well as local affections.

But all such ailments require fresh air, exercise, good diet, sleep and bathing for their cure. The health of the hair depends upon the general good health, as much as the health of the skin does. The measures described in the chapter on general health as it affects the skin hold true for the care of the hair.

CHAPTER VIII

PIGMENTARY DISTURBANCES

Freckles (Ephilides or lentigo)—Liver spots (Chloasma)—Argyria—Tattoo marks and powder stains—White spots (Vitiligo)—Jaundice (Icterus)

LAYMEN, especially those who have not been afflicted, are likely to group freckles, moles and blackheads all together, and to consider them slightly different manifestations of the same thing—though what the said thing is they seldom venture to state. Moles and freckles are both discolorations of the skin it is true, but there the similarity ends.

Their causes are different. So are their treatments—also their importance.

For that matter, they differ so much in appearance, except for the factor of abnormal color, that this alone would be sufficient reason for putting them into separate classes.

The discolorations discussed in this chapter differ in their cause and treatment, too, but they are alike in one respect: they are flat stains. Moles are elevated growths. Blackheads are only incidentally discolorations. Therefore, moles and blackheads are discussed in separate chapters.

Another characterization of the discolorations listed

in this chapter is that they are directly produced by excessive deposits of pigment in the skin, or by the lack of pigment. The patient may be born with them, or get them late in life. They may be temporary or permanent. They may be mere pinpoint flecks, or they may cover the whole face. They may be due to deposits brought to the skin by the blood, or they may be caused by external factors as in the case of gunpowder stains, tattoo marks or the use of poor cosmetics. Whichever cause is responsible, it has nothing to do directly with the oil glands, as have blackheads, nor with nevus cells in the embryo, as have moles.

Two separate factors are responsible for the color of the normal skin. They are: The redness of the blood in the upper blood vessels; and the pigment in the lower cells of the epidermis and the chromatophores (pigment-bearing cells) in the upper corium. Blood and pigment produce the various combinations of color on which the shade of the complexion depends.

Even in the blackest negro the pigment cells are brown, not black. Unless he is of mixed breeding the pigment cells are uniformly and evenly distributed. And they are present in huge numbers. The close arrangement of the pigment cells is what makes his skin dark. If you will look through a magnifying glass at a photograph reproduced in a newspaper, you will see that the various degrees of shade are produced by minute dots of ink, varying in their density. In the darker places the dots are so thick that they seem to run together. In the lighter spots they seem farther apart.

Think of pigment cells as these half-tone dots. The blood in the upper vessels is equivalent in its coloring effect to tissue paper spread over the newspaper photo-

graph. The combination is the color of the face, the complexion.

Since the number and density of pigment cells and the color and density of the blood vary so greatly in races and individuals, their possible combinations are innumerable. That is why there are so many shades of complexion. In Caucasian skins there are much fewer pigment cells than in negro skins. But the variation goes further. Some Caucasians have fewer pigment cells than others—hence, blondes and brunettes. Add the combinations of blood coloring and density, and we have pale, rosy or olive complexions, in blondes and brunettes alike. All this is normal pigmentation. Under certain conditions there is an increase or decrease of pigmentation. Something happens to make the deposits denser, or to do away with them.

The most powerful factor in increasing pigmentation is sunlight. The increased pigmentation is nature's attempt to protect the skin from the sun's rays.

When this increased pigmentation is uniformly deposited we call it tanning. When it is not uniform and occurs in spots we call it freckles.

FRECKLES

Because a freckled face means a face that has been outdoors in the sunlight, we not illogically associate freckles with health. We are amused at freckled urchins, and attracted by them. Children are more apt to freckle than grown persons, because their skin has not been hardened to the sun by years of exposure.

Freckles are not always a disfigurement to a grown person—even on a woman's face. They speak, some-

how, of a robust, pert, boyish character; and if the rest of the face and the personality be in keeping, a few freckles may be a real adornment.

But one must be the right type, as the vernacular has it, to wear freckles with chic; and with faces and personalities of the wrong type—languorous, statuesque, or what-will-you?—they are far from harmonious.

Merely for the purposes of thoroughness, freckles are herewith defined. They are pigmented spots varying in color from yellowish to dark brown or even black. They vary in size from that of a pin head to that of a pea. They are the most common of all pigmented lesions, and though they occur most frequently on the face, neck and upper back, they are still freckles if they crop up on any other part of the body.

The reason they are seen most often on the face is because this part of the body is most exposed to the sun; and that is the only reason. Any one who lounges on the beach in a swimming suit is likely to find that the rest of his body freckles more readily than his face, because it is less used to exposure to the sun.

Usually freckles appear quite soon after exposure to the sun; but sometimes it takes prolonged or repeated exposure to produce them, and then they come only gradually. From ten to twenty years is the freckle age. Both sexes freckle with equal readiness; but blondes and red-heads are much more subject to freckling. That is because blondes and red-heads have less pigmentation to begin with, and because their skins are more "sensitive" to the sun.

It is the action of the ultra-violet rays of the sun that produces freckles. They can be grown artificially

under the quartz-mercury-vapor-lamp, which sheds the same ultra-violet or actinic rays. The rays stimulate the lowermost cells of the epidermis and the chromatophores in the upper corium, and they produce more pigment in an effort to protect other skin cells and underlying tissues from the rays. Heat rays and wind may also cause freckles. If a freckle is cut out of the skin and studied under a microscope, the pigment is seen to have increased in spots.

Freckles may be permanent, or they may disappear with the coming of cold weather. Each successive summer's crop of freckles tends to become more prominent, darker and numerous. After the twentieth year, however, they show a disposition to fade and disappear. Occasionally freckles appear during cold weather, and are called "cold freckles."

They may occur on covered parts of the body. There is an ailment called Recklinghause's disease, in which the most pronounced freckles are found on the covered parts of the body. Along with them are moles and other growths; and there are certain internal symptoms which show that the disease is related to the glands, nerves, digestion or bone structure. Most probably it is due to a disturbance of the glands of internal secretion, especially the adrenal.

Freckles appear on persons of great age, and are then merely one of the symptoms of senility. Especially when seborrheic warts are found with them, they are more apt to degenerate into skin cancers.

Occasionally a child is born with what seem to be freckles, but actually they are a form of pigmented birthmark. Still another kind of freckles occurs in early

life as a symptom of a very rare disease called xeroderma-pigmentosum, which is usually complicated with cancer formations.

The only reason for treating freckles is that they are a cosmetic defect, a disfigurement, but that reason is sufficient, of course. Some people who freckle never need treatment because, as has been said, the freckles disappear of their own accord, while other persons get a fresh crop every summer.

The same thing holds true in treatment. In some cases the freckles, after treatment, never appear again; whereas in others the next exposure to the sun brings them on. While freckles may always be removed, some yield easily and quickly to treatment, but others disappear very slowly. In the case of some extremely sensitive skins the freckles grow darker under treatment, though eventually they fade and disappear.

External treatment is naturally the chief thing for the immediate removal of freckles. But preventive measures are highly important. And in many cases a constitutional examination is indicated, because it may be found that a disordered constitution has made sensitive a skin which otherwise, in good health, would only tan.

Persons who tire easily and lose weight and who also show freckles should receive a general examination. Improvement of the general tone of the system and increased blood pressure should be sought. Rest and overfeeding should be encouraged. Worry, fatigue, and nervous shocks should be avoided. Any specific constitutional disturbance revealed by the examination should be treated. Otherwise it will be futile to treat the freckles.

themselves. As a rule, however, there is no need for internal treatment in most cases of common freckles. More important for most people is their prevention. Persons of fair complexion and those who know from experience that they freckle easily should take special precautions to guard their faces from the direct rays of the sun. Wide-brimmed hats and parasols are the thing. And these should be red, brown or yellow, because these colors absorb the ultra-violet rays and keep them from reaching the face.

A crop of freckles is much more easily grown at the seashore than in the mountains, for many reasons. One is that in bathing drops of water cling to the face and become little lenses through which the action of the rays is intensified. Another reason is that when the water dries on the skin it leaves salt, which may irritate the skin and lay it open to inflammation which, however, slight, helps the sunlight to form the freckle. Any other irritation will do the same thing.

Before going to the beach, therefore, bathers who are apt to freckle will do well to rub cold cream or an oily lotion into the skin, or to dab on plenty of powder of a dark shade. These cosmetics will take the place of the pigment cells in protecting the skin. Beach guards, who expose most of their bodies to the sun all summer long, have learned to rub themselves with cocoanut butter or cold cream two or three times a day for the first week or so of each season. By this method they acquire an even tan, instead of painful burn or a crop of freckles.

Those who pick up a crop of freckles every summer should begin to treat them early in the fall. There are various bleaches which may be used. Lemon juice

washes are frequently all that is needed to remove light colored freckles. Peroxide and water solutions or peroxide creams are sometimes of value. Ammonia solutions or alkaline soap and water may bring about a fading of the freckles after they have affected a slight peeling of the skin. But these should be used with great caution. It is easy to increase the irritation and inflammation to the point where the freckles become worse instead of better.

Most beauty parlors use a treatment which consists in the application of caustic peeling preparations. Usually these preparations contain salicylic acid and resorcin, either separate or combined in the one preparation. As creams, these chemicals are applied to the face for three or four days. They produce a severe inflammation of the skin which causes it to peel or shed. With it go the freckles. After the peeling, soothing creams, lotions and solutions are applied to relieve the inflammation. All this requires confinement to the house for ten days or more. The chief danger, and one that always exists, is that the treatment may be too severe.

In all cases the removal of freckles is difficult and uncertain, because the pigment cells are deep down in the epidermis and upper corium. For this reason they are difficult to remove entirely. There is always the chance that scars may form.

The most strenuous treatment consists in the application to each freckle of such strong caustic solutions as mercury and carbolic acid. This treatment, however, should always be controlled by a physician, because it is easy to burn too deeply.

Occasionally the electric needle is used, but its action is very uncertain.

LIVER SPOTS

Liver spots have nothing to do with the liver. Often they are liver-colored; but they vary in hue from light tan to brownish black. They are a good deal larger than freckles—as big as a small coin and sometimes as big as an orange. Their shape may be round or irregular.

They occur most often on the faces of women, mainly on the forehead and temples. Unlike freckles, they are found on brunettes more frequently than on blondes. They may come on suddenly or slowly. They may remain the same size or may grow larger. There may be one spot or several. The patches are smooth and flat. They do not itch.

There are two types, classified as to their cause. The idiopathic, which depends upon some external or local cause. The symptomatic, which depends on systemic diseases.

The first type is caused by local irritation such as pressure, friction, sunburn, chemicals and heat rays. Certain occupations sometimes produce it. Firemen, from their exposure to heat, and bookkeepers and others exposed to strong electric lights, are likely to suffer from chloasma. Chemicals in certain kinds of cosmetics also may produce it.

In all these cases the continued irritation results in congestion of the skin (hyperemia) which is followed by the deposit of pigment.

The second, and more interesting, type of liver spot is the result of a constitutional disease. Tuberculosis and diabetes, for example, may result in an increased deposit of pigment in patches.

The color is brown, in general, but variations in hue are fairly characteristic of various diseases. A lemon-yellow tint often indicates malignant diseases, such as cancer and sarcoma. Malarial fever may bring on patches of sallow brown, diabetes a bronze hue and a brownish-yellow freckling or patch formation. Anemia, chronic indigestion and nervous diseases also produce chloasma.

The most common form is observed on the faces of women who suffer from functional or organic disease of the ovaries and uterus. In such cases the color is a brownish tone that fades into the surrounding normal skin, sometimes with a mask-like appearance. Often it is more marked during pregnancy, fades after pregnancy, and appears again with pregnancy. Frequently it is associated with menstrual disorders. It is probably dependent upon disease in the sympathetic nervous system and the closely connected endocrine system—the glands of internal secretion. The glands most closely related to pigmentary changes in the skin are thought to be the suprarenal.

Though this condition is frequently temporary, as has been described, it may be permanent. The result of treatment depends on the chances of cure of the internal or local disorder which causes the spots. In mild cases quick and permanent cures may be had by removing the cause. When the cause is a chronic and progressive disease such as tuberculosis, diabetes or cancer, it is usually impossible to effect a cure of the spots.

Obviously, the first thing to do when liver spots appear is to search for the cause. When, after thorough study, the cause is discovered, its treatment will do away with the spots in many cases. It is especially im-

portant to correct utero-ovarian disease. Chronic indigestion should be overcome, and anemia treated with such tonics as iron. Extracts of the glands of internal secretion are often given, with surprisingly good results on the whole body, including the skin. On the other hand, such treatment sometimes effects nothing.

The local treatment is essentially the same as in cases of freckles.

To sum up, in the treatment of chloasma, the chief emphasis should be placed on the examination of the constitution and the treatment of systemic disorders, the avoidance of irritation and the treatment of the skin by means of caustic and peeling applications.

ARGYRIA

This is a horrible-looking blueness of the skin which follows the repeated application of silver to the skin or mucous membrane or its internal use. It may occur only on the face, or on other parts of the body or all over the skin and mucous membranes. The blueness is due to a deposit of silver salts in the skin.

It is usually most marked on the face, neck and hands. The nails and hair may be affected.

The application of silver solutions such as silver nitrate to open parts of the skin—cracks and ulcers—may bring it on. Similar applications for sore throat and eye troubles, for example, may produce it. When silver is taken internally for diseases such as ulcer of the stomach, argyria may result.

It is described here chiefly because it is incurable. Therefore it should be guarded against. There is absolutely no treatment that will help it.

TATTOO MARKS AND POWDER STAINS

Tattooed faces are rarely seen in this country, but occasionally the dermatologist is called upon to remove tattoos. Usually the patients have been captives or harem inmates in Asiatic countries. The Turks, Kurds and others seem to have been particularly fond of tattooing the faces of Armenians whom they took in raids. Sometimes the tattooing was a species of identification —the owner's brand—and in other cases it was meant as a disfigurement.

In tattooing such coloring materials as indigo, carbon, carmine and cinnabar are introduced deep into the skin. The most efficient treatment consists in further tattooing. This time, however, chemicals that will produce an inflammation, instead of coloring matters, are introduced. The inflammation is followed by crusting. When the crusts fall off, scars replace the pigmented press.

Electrolysis, cutting, carbon dioxide snow and shaving off are occasionally tried. The results vary with the depth of the imbedded pigment. Until recently tattoo marks were permanent, but now they can be removed, though the treatment is slow and painful.

Powder stains are in effect tattoo marks. The burning grains of powder from the gun are imbedded deep in the skin. They appear as bluish or black spots. The treatment consists in the tedious picking out of each grain of carbon. There is no other way to remove them.

WHITE SPOTS

Vitiligo is a condition characterized by the absence of color in areas of the skin. It is most often observed

on the face, neck and hands—the regions most exposed to the sun's rays.

In this sense it is the exact opposite of freckles, though it proceeds from the same cause.

But while freckles appear frequently on healthy persons, white spots are apt to be an indication of some constitutional disturbance. In other words, a person of sensitive skin will freckle, if he is healthy; but if he is ill, he is more likely to show vitiligo.

This depigmentation is most marked in the summer. Then the patches or spots which are paler than normal are enclosed in a border of increased pigmentation—a border which is tanned a deeper brown by the summer sun.

The white patches are not elevated, neither do they itch nor give any other complaint than their decoloration. Hairs growing in the white patches often are white or gray also.

The cause of vitiligo is not positively known; but it is rather generally agreed among dermatologists that it depends upon a disturbance of the body's mechanism which controls the normal pigmentation. This mechanism in turn is controlled by the nervous system, and it, by the endocrine system. Therefore vitiligo, like so many other troubles, connects up eventually with gland disturbances. One of the disturbances with which it is frequently connected is exophthalmic goitre.

The history of some cases indicates that it may be hereditary. It is quite often found in persons who have patches of gray hair on the scalp, or loss of hair in patches (alopecia areata).

Syphilitics frequently show a characteristic form of vitiligo. It is mainly the neck that is affected, but some-

times the lower part of the face and the upper part of the chest and back may show small areas of depigmentation, enclosed by a network of brownish strands. The effect is that of a skin sunburnt under a lace collar.

In this country vitiligo is seldom a symptom of leprosy, although many vitiligo patients are shunned as lepers. Leprosy sometimes produces pale areas of skin; but there are other signs of the disease that a vitiligo sufferer lacks. The patches on a leper's skin have lost all sensation, too, while vitiligo patches are sensitive.

In most cases vitiligo is not permanent. Sometimes the patches grow larger and new patches form. Other times they disappear of their own accord.

Treatment consists mainly in trying to improve the nervous system. Drugs given internally are general tonics such as arsenic and iron; extracts from the ovary, thyroid, suprarenal, pituitary glands of internal secretion, and specific drugs such as arsphenamine (606), mercury, bismuth and iodides, as in syphilis. Obviously, all such medicaments should be taken under the supervision of a physician.

Constitutional treatment is emphatically of the first importance. In addition to medication, vitiligo patients should take as much rest as possible. Overexertion and anything else which depresses the nervous system should be avoided. Tobacco should be given up. Alcohol and stimulating foods, spices, condiments, coffee, tea and cocoa are forbidden. Prolonged exposure to sunlight should be avoided. Anyone subject to vitiligo may be of such weakened condition that sunstroke is easily contracted and may prove fatal. The bowels should be kept open. A plain, nourishing diet should be maintained.

Local infections should be sought for and removed.

Poisons which enter from these infected spots injure the endocrine system and interfere with the chromaffin (pigment controlling) system. The dentist should be called upon to examine the mouth for pus pockets or decayed teeth. The physician should look for infected tonsils, gall-bladder, prostate and appendix disease. Any of these organs may be draining off poisons which cause all the trouble.

It is advisable to keep the patches covered with creams or dark powders during the summer, especially at the beach or on the golf course. Various dyes may be used to darken the patches. Walnut extract in various shades may be used. Sometimes it is advisable merely to lighten the dark borders around the patches.

Vitiligo is chiefly important because it is a symptom of some constitutional ailment. It is a grave cosmetic defect, of course, but it is the sign of something worse, and should be looked after as soon as it appears.

JAUNDICE

Jaundice is a symptom of any one of a number of diseases. It is discussed in this book only because a jaundiced skin is a disorder with discoloration and intense itching of the skin.

Not only the skin, but the mucous membranes and the bodily fluids are stained in jaundice. The discoloration may be barely noticeable or it may be of a very deep yellow. Sometimes the jaundice is a sign of a mild, temporary inflammatory disease; and again it may betoken a chronic and malignant trouble. It is impossible to list in such a book as this the various diseases that may cause jaundice. Suffice it to say that whenever

jaundice appears there must be an immediate and complete physical examination, including laboratory tests. Only in that way can its cause be determined.

The discoloration is produced by bile pigment. Bile is a juice or fluid produced by the liver. Any condition which obstructs the normal flow of bile and dams it back causes it to flood the body.

For example, an inflammation of the intestines may bring about a swelling which blocks the bile duct. This prevents the bile from flowing into the intestine, as normally it does. Such an affection is fairly common and is called acute catarrhal jaundice. Despite the name, it is a mild disease and is easily controlled.

Gall stones may cause jaundice, in the same way; but often it is necessary to resort to surgery for relief. At times with medical treatment the stones pass out through the bowel and treatment should be continued to prevent recurrences.

Frequently the disease of which jaundice is a symptom may be some sort of blood infection, often serious. In such cases the blood cells are destroyed, and this results in the release of pigments which normally go into the bile. Thus, yellowish skin and mucous membranes are symptoms of acute endocarditis, a very serious infection of the heart. A steadily progressive jaundice is sometimes brought about by a cancer of the head of the pancreas, one of the abdominal organs, a condition that is usually fatal. Heart, blood-vessel and kidney affections interfering with the liver circulation may produce it.

Severe itching (pruritis) accompanies jaundice. It should be under the care of a physician. Profuse sweating is a common accompaniment of jaundice. Some-

times the perspiration, the spittle and the urine are all tinted. The feces, on the other hand, are frequently clay-colored or colorless, since they are devoid of the bile which normally colors them.

The rates of heart beats and respiration are greatly decreased, and the tendency to bleeding is a serious phase of chronic jaundice. In such cases, instead of coagulating in $3\frac{1}{2}$ to $4\frac{1}{2}$ minutes, it takes the blood as many as 11 or 12 minutes. Injections of calcium salts are frequently given to remedy this condition. Accompanying persistent jaundice are frequently melancholia, irritability, coma, delirium and convulsions.

The important matter is for you to go to your physician for a complete and thorough examination upon the first appearance of jaundice.

CHAPTER IX

BOILS AND OTHER INFECTIONS

Pustulation (Impetigo)—Inflammation of the hair follicles (Folliculitis; sycosis vulgaris)—Boils (Furuncles)—Carbuncles—Treatment of pyogenic infections—Erysipelas—Ringworm of the face (Barber's itch; tinea barbæ)—Tuberculosis of the face (Lupus)—Syphilis and how it affects the face

THERE is probably no class of skin diseases so difficult for the average person to distinguish, one from the other, as the infections. Boils are mistaken for carbuncles, barber's itch for folliculitis, and so on. In addition, it is seldom realized that the word *infection* is a rather comprehensive word, too generally used, without the necessary sub-title to convey a more specific idea of the type of infection involved.

The usual order in which these chapters are presented is therefore varied in this chapter, in the hope that the several infections and their differences in cause and effect will be more clearly understood.

There are a great many kinds of infections of the face. Only those most commonly encountered or those which are less common, but which are important because of their relation to some systemic disease, are discussed here. They are called infectious diseases because they are produced by the presence, growth and activity

of infectious agents or germs. Some are merely temporary, annoying disfigurements; others may leave permanent scars, if not treated, and some may cause death, if neglected. For our purpose, all these infections fall into three classes:

1. Those due to pus-forming microbes, such as boils.
2. Those due to vegetable parasites, such as ring-worm.
3. Those due to constitutional infections, such as syphilis.

The mere presence of bacteria on the skin does not produce infections. All sorts of bacteria are always present on the skin, but nature has provided certain defenses against them. The topmost layers of the skin are made of horny cells built up in layers. When these cells are normally healthy and sound, they keep out harmful matter such as germs.

It is only when the top layers have been damaged, by scratching, bruises, excessive heat or chemical irritation, that the underlying tissues succumb to the invasion of germs.

The invasion of the skin by germs produces many sorts of results. Some cause pus formations, such as boils; others cause inflammatory reactions, such as ring-worm. Still others cause tumors, such as those arising from tuberculosis; and some produce no disease in the skin. The given type of germ varies in its action according to its strength or weakness. Germs differ in their vigor and activity just as individuals differ in their general health and vitality. Thus, germs of the same group may produce different kinds of eruptions.

Very important factors in the production of infectious lesions are the condition of the skin and the gen-

eral constitution. Some skins naturally prove sterile ground for the growth of germs; others are more fertile. But with good constitutions, there is less likelihood that bacteria will grow and produce eruptions on the most vulnerable skin. When the general health is poor, almost any wandering germ can find a home.

When there is a constitutional disorder, the resisting forces of the body, the home guards, are not up to par. That gives germs the chance to sneak in through the gate—the skin. Such diseases as constipation and diabetes, for example, weaken the defenses of the skin, so that the invasion by germs is made easy. The blood itself may turn traitor and carry germs to the skin, as it does in syphilis and pyemia. Or poisons produced in other parts of the body—foci of infection as they are called, like infected teeth—may damage the skin and make it an easy victim of infectious diseases.

The most common of all infections of the face are those caused by the pus-forming bacteria, the pyogenic bacteria. There are various types of these germs, and the eruptions they produce differ in appearance, depending on the type and the virulence of the germ, the place where it is planted and the condition of the constitution.

PUSTULATION

The most common of all skin infections and the easiest to cure is impetigo. That is the term for a group of pus infections which affect only the top layers of the skin. Impetigo is produced by the germs known as staphylococci and streptococci. It is infectious, and is transmitted by contact with material contaminated by the germs.

The characteristic symptom is the presence on the face, and less often on the scalp, ears and hands, of small red spots which appear as elevations containing fluid that quickly becomes pus. These pustular formations usually appear within twenty-four hours after the appearance of the red spots.



Impetigo—showing superficial pustule in epidermis. No relation to a follicle.

The contagious pustules are characterized by the pus, which is yellowish. Also, they are soft and flabby lesions, and they dry into crusts of a honey or sulphur-yellow color. The crusts look like thick, dried honey stuck to the skin. This condition is infectious and auto-inoculable—that is, the lesions reproduce themselves; when germs are carried from pustules to other parts of the skin they produce fresh lesions.

Impetigo can be contracted at any age, but it is more prevalent among children. Usually it is not the accompaniment of any specific constitutional disease; but many cases seem to be associated with general debility, and these cases are more difficult to cure.

Sometimes this infection is mistaken for ringworm. The lesions may be clear in the centres, with crusted borders, giving the ringed appearance suggestive of ringworm.

In another type, bullous impetigo, the pustules are

very large. It may easily affect new-born children, and in about 20 per cent. of the cases it proves fatal. In maternity hospitals, vigilant precautions are taken against impetigo, as cases spread rapidly in institutions, and it is very difficult to stop an epidemic.

In any case of impetigo, it is advisable to look for infectious discharges from the nose and ears, and also for conditions that might cause itching. The itching makes the patient scratch the skin, so that the impetigo may be a secondary infection. This is true especially of impetigo of the back of the neck as well as of the face. Pediculosis capitis, a pleasant way of saying head-lice, causes a secondary impetigo infection, which shows as crusted, moist and oozing pustular patches.

The treatment of impetigo consists mainly in keeping the skin clean and preventing the spread of the infection. Hence, don't scratch or rub the infected face. The skin should be washed several times a day with soap and water; and an ointment, which usually contains mercury, is then rubbed into the infected spots.

Usually this is sufficient to remove the lesions. If the skin is painfully swollen, wet dressings are applied to remove the crusts and reduce the inflammation.

It is very easy to spread the infection. The hands must be frequently and carefully washed. Anything that has been in contact with the lesions must be sterilized or destroyed. The patient must have his own soap and towels. His sheets and pillow-cases must be boiled as soon as he is through using them. Other skin troubles accompanying impetigo must be treated, of course. If there is a slight fever, a cathartic is administered.

When cases of impetigo occur in a maternity hospital, the most careful aseptic and antiseptic measures

must be employed, even if it means the isolation of the patient and the service of special nurses.

INFLAMMATION OF THE HAIR FOLLICLES

Impetigo, as has been said, is an infection of the top layers of the epidermis by pyogenic, or pus-forming bacteria. When the same germs enter the mouths of the hair follicles and grow there, they produce an inflammation of the follicle and the skin immediately surrounding it. This inflammation is known as folliculitis barbæ (folliculitis of the beard), or sycosis vulgaris.



Folliculitis. Inflammation in and around the follicle.

The first sign of this ailment is the reddening of the mouth of the follicle, after which it becomes elevated. The skin around it redds and puffs up. The elevation forms pus. If the hair is pulled out with a forceps, it shows a sheath of grayish bacteria. The hair, however, is firmly attached in the follicle and cannot be pulled out without pain. In this particular point, folliculitis is distinguished from ringworm of the beard, in which

the hairs have a tendency to fall out, or can be pulled out very easily without pain.

Folliculitis of the beard is caused by infection from unsanitary shaving, from discharges from the ear or, more frequently, discharges from an infected nose. Only one follicle may be affected or the whole bearded area of the face.

Persons in poor general health and sufferers from such metabolic diseases, such as diabetes, gout and disordered kidneys, easily contract folliculitis. Even if true diabetes is not present, persons whose blood sugar content is high, show a predisposition to folliculitis. Constipation, especially when there is a carbohydrate fermentation of the stools, also predisposes to it. It is an important matter to improve the general condition, in order to help to combat the skin infection by increasing the resistance of the body.

Since the local treatment for folliculitis is in a general way the same as that for boils and carbuncles, it will be described later in this chapter.

BOILS

When the same pus-forming bacteria that produce impetigo and folliculitis dig farther in and attack the deeper parts of the follicles and the sebaceous, or oil glands, a deep, round, inflamed mass develops. The result is what we call a boil.

Boils are common enough to be considered slightly humorous by every one except their victims. They are very painful, hard, red lumps like marbles, surrounding each hair follicle. Some tend to soften and form a soft, pus-discharging sore. That is, the centre around the

follicle discharges the pus and the rim remains hard and bright red. When the centre has softened sufficiently, it may be removed. A pus-discharging ulcer is then left, which empties itself and heals, often leaving a scar.



Furuncle. Deep, solid inflammation, circumscribed, around follicle.

Boils are quite frequently the accompaniment of constitutional disorders. Almost invariably they indicate a run-down condition, if not a serious disease. Diabetes is often accompanied by boils. The first sign of a boil should send the patient to a physician for a general examination and treatment.

Where the rim or wall of a boil is soft—because of a poor general condition—the infection is not well-confined and tends to spread and invade the circulation. Abscesses may develop in other parts of the body, such as around the kidneys, and general blood infections may result. Sometimes these infections are fatal. Boils with firm borders are, therefore, more easily cured and less dangerous.

In certain occupations where the skin is likely to be injured or exposed to dirt, tar, petroleum or other chemicals, there is a constant danger of contracting boils.

Bromides and iodides taken internally may produce boils and folliculitis.

Both boils and folliculitis may affect any part of the face and neck. Folliculitis, of course, is more likely to occur on the bearded parts of the face. It is more chronic and obstinate, but boils are more painful.

A boil on the upper lip is especially to be watched. It is extremely dangerous, and may cause death. This is because the lymphatic drainage of the upper lip is very extensive, and also is upward. Poisons draining from the lip, therefore, may cause meningitis.

CARBUNCLES

There is a widespread confusion of ideas about boils and carbuncles. A great many people rather naturally think they are the same thing. They are distinctly different; but the difference is more in degree than in kind.



Carbuncle. Inflammatory mass involving several follicles.

A carbuncle is larger, deeper, more destructive and vastly more serious than a boil. It is an infection by a pus-forming germ, like the boil; but it is always accompanied by systemic disorders. The diagram will make clear the difference between the pyogenic infections.

A carbuncle is a hard, rounded, inflammatory mass,

extending down through the corium into the subcutaneous tissues. It goes deeper than the boil, which seldom extends below the upper part of the corium. A boil affects only one hair follicle. A carbuncle affects several, through which pus is discharged from the inflamed centre.

With carbuncles there are fever, headaches, urinary symptoms, anemia, loss of weight and general discomfort. In addition there are the symptoms of the metabolic disease, very often diabetes, that is present. Because of this general collapse of the system, a main feature of the treatment of carbuncles is the employment of every measure that will build up the body and help it to fight the disease. Very frequently death results from carbuncles.

TREATMENT OF PYOGENIC INFECTIONS

In the treatment of folliculitis, boils and carbuncles, it is important to find the constitutional disease that may be present and correct it. Even if no such disease is discovered, it is advisable to clean out the bowels, remove sweet and indigestible foods from the diet and take tonics such as iron and cod-liver oil, to bring the system's powers of resistance up to par. Plenty of fresh air and sunlight and a great deal of water, outside and inside, are highly desirable. Irritation, dirt and harmful chemicals should be avoided, of course.

Yeast helps some patients. For others it does nothing. And it could hardly be expected, alone, to overcome an infection more serious than impetigo.

The physician may decide to rely on injections, in order to stimulate the defensive forces of the body.

Either the so-called stock vaccines, or a vaccine made from germs in the pus given off by the patient may be used. It is necessary to regulate the dosage very carefully, or there will be severe reactions. Other kinds of injections, too, may be used—foreign protein preparations, turpentine, or drugs such as arsenic and strychnine; or the patient's own blood (auto-hemotherapy), or a serum from his own blood may be injected.

There are two main fallacies about the treatment of folliculitis and boils. One is that the face must not be shaved—that is why so many men go about, with obviously uncomfortable beards. The other is that boils must always be cut.

The face should be shaved daily. Infected hairs—that is, those coming out through boils or folliculitis lesions—should be pulled out with sterilized tweezers or forceps. The reason for keeping hair off the face is that infection is minimized, and the local applications can penetrate deeper.

Boils need not invariably be cut. They are cut too often. Too frequent cutting breaks down the rim, or defensive wall that the body builds around the infection, and this opens up the blood and lymph vessels and so permits the spread of the infection.

It is rarely necessary to cut boils, as a matter of fact; but when it is done, the most thorough asepsis and antisepsis must be enforced.

The main treatment, indeed, should be the enforcement of asepsis and the administration of measures that will reduce and remove the infection. The boils and the skin around them should be washed several times a day with soap and water. Following the washings, al-

cohol and water or boric acid solutions should be lightly dabbed on and then antiseptic dressings applied. It is of the greatest importance to avoid irritating and infecting the skin around the boils.

When the boils are tense and tender, a wet dressing—not a compress—relieves the pain and encourages the softening and evacuation of pus. It is a mistake to put heavy bandages, oil skin or gutta-percha over the gauze to form a compress. The dense texture of these materials causes a retention of the heat and the pus discharge and nurtures the growth of the germs.

This applies to the patent compresses advertised for the cure of boils. They do exactly what they should not do—provide a happy breeding ground for the bacteria and prevent the physical changes by which a boil breaks itself down and commits suicide.

In obstinate cases, soothing applications are greatly aided by the X-ray. It kills surface infections, causes the hairs to fall out, and thus gives the antiseptics a free road through open follicles, so that they may reach germs deep in the skin. Ultra-violet rays also are useful in improving local and constitutional conditions.

The same sort of treatment is employed for carbuncles, but here surgery is almost always necessary. The infection is usually very deep in the tissues—too deep to reach unless a way is opened with the knife. In addition, cutting provides the discharges with another way out. Until the incision is made the carbuncle gets worse, as a rule. Often it is necessary to make several long, deep and disfiguring incisions.

As may readily be imagined, these pus infections are no trivial matter. The best way to treat them is not to

have them. And the best way to achieve that happy state is to keep the general constitution up to its highest tone, and to make a habit of strict cleanliness.

ERYSIPelas

Erysipelas is one of the skin diseases which is dying out because the knowledge of asepsis has progressed so rapidly in recent times.

Erysipelas is a very severe, spreading inflammatory condition caused by the infection from a specific bacterium, the streptococcus of Fehleisen. It produced a bright, shining redness and swelling of the affected part of the skin, with heat and edema. Sometimes blisters form. The border of the infected area is usually well defined and elevated.

More than the infections just described, erysipelas spreads with extreme speed and considerable irregularity. While it is dying down in one place, it is springing up in another.

It is invariably accompanied by high temperature, sometimes as high as 105° Fahrenheit. There is great discomfort, nausea, vomiting and chilliness. There may be delirium. The nose, lips, ears, eyelids, may be swollen, or the whole face so puffed up that the features are indistinguishable. It may last a few days or several weeks. It may seemingly be overcome, and then recur. Often these recurrences are mild and without fever.

Those who are in poor physical condition are much more apt to contract erysipelas than those in good health. General debility, alcoholism, organic diseases and post-operative states lay one open to it. It is highly infectious. The germs must come in contact with cuts,

abrasions or wounds in the skin for the disease to take hold. That is why the infection so often starts in the wounds resulting from surgical operations, and in orifices, such as the nose and ears. Cases have been traced to the pulling of a hair from the nose.

Erysipelas may be fatal to those in especially poor physical condition. A dangerous possible complication is meningitis.

The treatment consists in measures to keep the bowels and kidneys active and to tone up the system. Local measures are those given for boils. Injections of vaccine are of some benefit. Wet dressings are valuable and very soothing. Again, prevention, by maintaining strict asepsis and good physical condition, is worth the traditional pound of cure.

RINGWORM OF THE FACE

Ringworm, a very common facial infection, has nothing to do with worms. Instead, it is caused by the growth in the skin of vegetable parasite, a fungus. There is no one special kind of fungus that causes ringworm; the French dermatologist Sabouraud has identified dozens of kinds.

All parts of the skin may be attacked by varieties of ringworm—including the scalp and nails—but on the face two principal forms of eruptions are produced, those on the hairy and those on the beardless parts.

On the beardless parts of the face the ringworm eruption is a red, slightly elevated spot about the size of a pea. The spot grows larger until, after a week or ten days, it is as big as a dime or even a nickel. At this stage the centre is slightly sunk below the border and is

dark red and scaly. The elevated border—the ring that gives the infection part of its name—is more inflamed and is covered with little blisters, pus pockets and crusts. Several such eruptions may develop near the original spot, or they may appear some distance from it on other parts of the body. The eruptions may run together in a circle about the central spot or form patches shaped like the figure eight.

This is the characteristic formation of ringworm eruption, but sometimes only flat, irregular and paler patches may develop. In other cases there is a more severe inflammation, which results in elevated or deep pus formations, crusting and even abscesses.

The ringworm that affects the hairy portions of the face is usually on the lower part of the chin, the beard of the cheeks, and the neck. Rarely does it occur on the moustache. This is the infection known as barber's itch. The eruptions may be like those of the hairless parts of the face, but more characteristic are those which involve the hair.

The fungi, which may be seen in infected material under the microscope, invade the hair follicles and produce an infection like the pus infections folliculitis, or sycosis barbæ, described above. Small pus pockets develop around the hairs. Soft nodules and lumpy masses form. They become rounded and red. The hairs become loose and fall out. They can be easily and painlessly pulled out. (In the folliculitis from pus germs, they are difficult and painful to extract.) There is a discharge of thick, sticky, mucoid pus.

The lumps which form are often taken for boils. But they are not so acutely inflamed as boils, and when cut, they do not reveal pus but the thick viscid material.

The disease is highly infectious, and may easily be communicated to other persons. It is all too common, especially among children. In schools and orphanages, therefore, epidemics must be guarded against. In the New York City public schools the teachers carefully watch their charges for symptoms of ringworm, and on the slightest suspicion send them to the school nurse, who returns them to their homes, if the suspicion is verified. Ringworm of the scalp is common among children. At one time the disease was so widespread and so chronic in Paris that special schools were opened for children with ringworm. Adults rarely contract ringworm of the scalp.

There are innumerable sources of the infection. Imperfectly aseptic barber shops, beauty parlors and hairdressing establishments may spread it by means of unsterilized hands, towels, tools and clothes. It may be contracted by handling cats, dogs, cattle, horses or rabbits. Like all infections, it is more easily acquired by those with poor constitutions. And where there is poor resistance the infection is more difficult to cure.

The individual may do a great deal to protect himself against ringworm infection. Everywhere Boards of Health have made rules for the conducting of barber shops and beauty parlors on a sanitary basis. Their patrons should insist that the rules be observed. Those who feel that they lack the nerve to tell a hairdresser to wash his hands and sterilize his instruments need only to see a case or two of ringworm. They will have nerve enough to face eight barbers, three boyish shinglers, and a permanent-wave maestro named Narcisse without a qualm.

Constitutional treatment is seldom necessary for new

cases of ringworm. But where the infection seems to be chronic or the constitution is obviously weak, it may be necessary to build up the system. Tonics of cod-liver oil, arsenic and iron are beneficial for this purpose.

Cleanliness is, as always, a main consideration. Without dirt the fungi have a hard time scratching a living. Plenty of soap and water is the way to cleanliness. Coolness helps the skin and annoys the fungi.

Hot towels and massage are all wrong. Heat makes the fungi grow and spreads the infection. So does massage.

Another fallacy is that the beard should not be shaved. Hairs in the infected area should be pulled out with sterilized forceps or with epilating wax or paste. Keeping the hair off the face insures cleanliness, removes any number of fungi and permits the antiseptics to enter the follicles freely.

Ringworm affecting the beard is sometimes easily cured, but more often it runs for weeks, months and even years. It is likely to recur because a few fungi remain from the old infection.

The dermatologist usually employs very strong antiseptics. Where the disease is obstinate or where quick cures are desired, the X-ray is used. The beard is exposed to measured doses of X-ray. This causes the hair to fall out temporarily, and with it many of the fungi. The remaining fungi may readily be reached by antiseptics. Naturally, the X-ray therapy must be administered by a trained physician, or all sorts of ill results may follow—and invariably do follow, at the hands of a quack.

Various injections may be administered as a supplement to the X-ray. Among the injections are ringworm

vaccine, turpentine and foreign proteins. They act by stimulating the defensive forces of the body and by stimulating the body cells around the infection to destroy the fungi.

There are many other kinds of infections of the face, most of them quite rare. Two of the more common and highly important infections resulting from constitutional causes are described here. They are tuberculosis and syphilis, diseases of which the face shows evidence. There may be a general eruption, including the face, as a major result of the disease; or the signs of the disease may be visible only on the face and give the only clue to its presence. The cosmetic results of these two great destroyers of human life and health are always disfiguring, to put it mildly.

TUBERCULOSIS OF THE FACE

When we say tuberculosis we usually think of tuberculosis of the lungs—phthisis, consumption. Actually the disease may strike at any part of the body—the bones, viscera, skin.

The disease, wherever it occurs, is caused by a microscopic, rod-shaped organism, the bacillus of Koch. When the skin of the face is affected, the resultant condition is either what is known as true tuberculosis of the skin, or toxico-tuberculids.

True tuberculosis of the skin is caused by the invasion of germs from external infections or from other parts of the body which are infected. Thus, an individual with tuberculosis of the lungs may give himself tuberculosis of the skin; or germs from one tuberculous individual may infect the skin of a healthy person.

Tuberculids are caused by the poisons, or toxins, of tuberculosis carried to the skin by the blood.

Either of these conditions is manifested by eruptions. The eruptions are always chronic, obstinate, difficult to cure, and usually they leave scars. Obviously, local treatment should be combined with measures to remove the source of infection.

SYPHILIS AND HOW IT AFFECTS THE FACE

Syphilis is usually first detected by the dermatologist, because the first signs of the disease almost invariably appear on the skin. Syphilis is an infectious constitutional disease caused by a minute, single-cell animal organism called a protozoan, of a spiral or corkscrew shape, known as the treponema pallidum, or spirocheta pallida.

The disease is marked by three stages—primary, secondary and tertiary. During the first stage, the disease makes its appearance in the formation of a hard ulcer known as the chancre. Although chancres almost always occur on the genitals, they may appear on the face where there is an abrasion, or on the mucous membrane of the lips, nose or eyelids. The chancre is the place where the original infection occurred—where the spirochetes and poisons entered the blood to infect the whole body.

Needless to say, the early discovery and recognition of the chancre is highly important, if the disease is to be battled before it takes a firm grip.

In the secondary stage, there are signs of the general infection. Here the skin shows the most prominent traces of the disease. There are characteristic spots all over the body, including the face.

In the tertiary stage, the infection has become more localized. There are single lesions, many of them on the face, which break down into ulcers and scars. These lesions, too, are characteristic and to the trained eye unmistakably reveal the presence of the disease.

These two diseases are mentioned here only because they are so prevalent, and because they are often first recognized by their appearance on the skin. Their early recognition may save the sufferer many years of misery, if not his life itself.

Victims of these diseases, especially of syphilis, fall an easy prey to a horde of quacks. There are thousands of "blood disease" doctors and "specialists in the diseases of men" who, even if they possess the skill to bring about a cure, prolong the disease in order to bleed the victim of his wages, as he earns them, for years. A "shameful" disease, as syphilis is called, it tends to keep the infected individual from consulting his regular physician or a recognized, ethical specialist. Instead, he puts himself in the hands of some advertising charlatan—and he is gone. Reputable newspapers have done a great deal to put such quacks out of business by refusing to accept their advertisements.

Education in prophylaxis, social hygiene and preventive measures generally is doing much to prevent the spread of syphilis. Advances in methods of treatment are rapid. In time it may be eradicated.

Tuberculosis offers a more serious problem. There is no specific treatment as there is for syphilis. But standards of hygiene and living conditions generally are rising year by year, and the good general health they produce is our most potent weapon against tuberculosis.

CHAPTER X

MOLES AND OTHER BIRTHMARKS

Hairless mole (Pigmented nevus)—Hairy mole (Nevus spilus)—The common birthmark (Vascular nevus)

NOT so very long ago the whole subject of birthmarks was shrouded in vast and awesome mystery. All birthmarks, but more especially the purplish splotches on the face, were considered sure signs of some supernatural distinction. A person so marked had powers of foresight and divination, like the seventh son of a seventh son. Or a melodramatic fate, usually unpleasant, awaited him. Or he belonged to the Devil.

In time people got over these notions—although there are still plenty of superstitions about them—and eventually scientists discovered their cause. Even now, however, there are persons who should know better who believe and repeat choice tales of pre-natal influence and its results.

Let a child show a birthmark, and the inevitable “shock” is remembered, by the mother or some one else. The mother was scared by a mouse, while pregnant; or she saw a lame horse. Perhaps there was a fire in the neighborhood, or some one touched her while she was excited. She may even have been staring at the dark window-shade just before the child was born. Any ex-

plantation will do; and there always is an explanation, and a thrilling one.

It would be quite as logical to hold colored paper before a hen on the nest and expect her to lay an Easter egg.

One of the last things enlightened people learned about birthmarks was that they are not irremediable, and that their removal is not invariably fatal. As a matter of fact, the treatment of some forms of birthmarks is rather recent, and no one who reads of it here for the first time need bewail his ignorance.

While there are many more types of birthmarks (nevi), the three groups are listed here for purposes of description. They are: Hairless (pigmented) nevi; hairy nevi; vascular nevi.

The first two are what is known as moles. The last is what is more commonly known as a birthmark—a dark splotch on the face or scalp, and sometimes on other parts of the body.

There are several scientific explanations of nevi, but all relate to the growth and development of the embryo and the formation of the foetus. So stated, nevi may be said to be representations of congenital malformations characterized mainly by the presence of the nevus cell, and tending to develop and grow along the line of the embryonic sutures.

In other words, certain cells, called nevus cells, form in the unborn child and produce birthmarks. To go farther by way of explanation would require a chapter from a text-book on embryology.

A few dermatologists believe that nevi may originate after birth. Probably they think so because in some cases

the nevus is so small that it is not visible directly after birth.

But large cells or nests of cells can be seen under the microscope, usually in the upper part of the corium, or true skin, when a nevus is removed and examined. These cells differentiate nevi from other growths. From this and other evidence most dermatologists are agreed that all nevi have their origin in embryonic life.

HAIRLESS MOLES

A mole may be described as a definitely outlined growth of skin showing an increase of pigment. Hairless moles are the commonest of all birthmarks. Their color varies greatly. Some are so slightly over-pigmented that they seem to the naked eye to be the color of the normal skin. Others are light tan, brown and even black or bluish.

Their size varies as greatly. Some may be as small as a pin point. Others spread over the face as though the palm of the hand had covered it. There is another kind, called the bathing-trunk nevus, which covers the whole lower part of the abdomen and the front and back of the thighs. The "cape" nevus covers the lower part of the face, the neck, the shoulders and the upper trunk.

Moles are round, oval, irregular in shape, or fig-shaped or linear. The linear formation often follows the line of the nerves on one side of the face and is sometimes mistaken for an eruption of shingles—which is caused by inflammation of the nerve cells and follows the nerve line.

Hairless moles are usually flat, smooth and soft. But they may form in mound shapes. And they may be hard

instead of soft, and rough, warty, scaly or furrowed instead of smooth. As a rule they are composed of the top cells of the skin and the upper part of the true skin; but they may extend quite deep into the skin, and contain much fibrous tissue and even fat.

Moles are as common to one sex as to the other. But moles can have little pretension to gentlemanliness, for they much prefer brunettes. Why brunettes should more frequently bear moles is a matter for speculation. It may be that any departure from blond pigmentation is still, after countless generations of evolution, a departure from normality manifested by abnormal pigmentations like nevi.

Moles may remain small, they may grow, or they may disappear of their own accord. Rubbing or other irritation may inflame them and make them red and tender. Seldom do they itch, unless the skin becomes very dry or there is some secondary inflammation.

They should never be irritated in any way, because the irritation may increase their growth. They should never be picked or squeezed, of course. Frequently the moles on a man's face are in the direct path of his daily razor. These should be removed by the physician. Otherwise, because of the possible resultant stimulation of the cells, they may become the most malignant form of cancer, spreading over the skin and invading the body to produce rapidly growing malignant and fatal tumors. When they are not constantly irritated moles are almost invariably harmless, and are objectionable only if they disfigure. Some hairless moles, indeed, are considered "beauty marks."

It is necessary to study the hairless mole very thoroughly before the method of removing it is decided

upon. Its location, size, color, depth, tendency to growth and other factors are of great importance.

For small, shallow, light moles the electric needle and certain caustics may be sufficient. Others may need rather drastic surgery.

In the latter cases, where the mole is so large, or has reached the point where a cancerous development is to be feared, it may be found advisable to operate, even if a scar or other blemish is certain to result. The important thing would be to make sure that every nevus cell has been removed, even if the incision has penetrated far below the growth itself. Frequently apparently normal tissue is removed to make absolutely certain that the last scattering nevus cell has been abstracted. Metastasis must be guarded against.

Radium and X-ray treatment produce good results in many cases. Carbon dioxide snow is often applied. Especially is endothermy productive of good cosmetic results.

Endothermy is the application of the high-frequency electric current. Employed for this purpose, it produces heat within the cells of the mole, dries them up by extracting their water, and thus kills them. At the same time the blood vessels are closed. This prevents bleeding and the spreading of the diseased cells through the opened blood vessels—something which may occur, if the mole is cut by the knife.

At times several methods of treatment are combined. Thus, the dermatologist may determine that a specific case calls for surgical excision, combined with X-ray and radium treatment. Or he may administer endothermy and radium.

The main thing is to be sure you do not put yourself

in the hands of a quack. It should be obvious by now that if mere irritation of moles may produce a fatal cancer, maltreatment by an ignorant, unscrupulous, "beauty doctor" is almost certain to bring about a tragedy—for life, if not death.

A mole may or may not be malignant. It may or may not become malignant. But the danger is always there. Why take a chance with a "beauty doctor," no matter how disfiguring the mole may be?

On the other hand, why go through life with the disfigurement? A skilled up-to-date practitioner can remove it, after thorough and scientific study. Your regular physician can recommend such a specialist, if one is needed.

But in any event, never, under any circumstance, place yourself in the hands of a "doctor" who advertises. Somewhere in this wide world there may be a sound, reliable medico who advertises in the newspapers. But he hasn't been found yet. A physician who does not advertise may be a quack. One who does advertise is sure to be.

HAIRY MOLES

A hairy mole is a greater disfigurement than a hairless mole of the same size. It is rougher and more warty, and the hairs sticking out from it are usually long, coarse and black, though they may be the downy lanugo hair.

It seldom shows the tendency to malignancy so often shown by the smooth, hairless type. It is rather easily removed. Therefore, why have it? Your face should be given every reasonable chance to look its best; and if

a slight, safe operation is all that is necessary to get rid of such a blemish as a hairy mole, why put up with it?

The best method of treatment are by endothermy and electrolysis. The electric needle destroys the hairs quickly and permanently. Occasionally the electric needle kills the hairs, but leaves a bit of the mole. The carbon dioxide treatment or endothermy then completes the removal.

THE COMMON BIRTHMARK

Common birthmarks are simply large blood vessels massed together in the corium, or true skin, and the underlying tissues. As has been explained before, they are probably caused during the development of the embryo by some irritation and enlargement of the blood vessels along the lines of the embryonic sutures. Seventy-five per cent. of them occur on the head.

There are other blood-vessel enlargements. That produced by rosacea, already described, where the blood vessels show in streaks; and the so-called varicose veins of the legs. But these are the result of the enlargement of blood vessels that once were normal—an acquired condition—whereas the true vascular nevus is present at birth, or is noticed very soon afterward. It is most often found on the scalp or on the face.

The most common form is the angioma simplex, which, it may not be surprising to learn, means "simple blood-vessel tumor." Its color varies from light red to purple or blue. It may be only slightly elevated, or it may bulge out so that it looks like a marble. When it is first observed it may be no larger than a pin head.

Gradually it enlarges to the size of a hazel nut, and sometimes it becomes as big as the palm of the hand. Usually it is smooth; but it may be irregular and lumpy.

It is soft, and may be pushed in with the finger. Anything that interferes with its circulation—sneezing, coughing or violent laughter—enlarges it and makes it stand out. If it is torn, there may be a rather severe hemorrhage, which can be controlled by applying a bandage of gauze very tightly. When the hemorrhage cannot be stopped a physician should be summoned.

An injury or infection to such a birthmark will often produce a wound that results in a scar. Sometimes, also, the tumor enlarges to the point where it is a positive deformity. Such a tumor is known as a cavernous angioma.

Quite common also is the type of birthmark which is either flat or only slightly elevated, and which is variously called claret stain, port wine mark or flame mark. Like the angioma simplex, it may be very small at birth; but it shows a distinct tendency to enlarge. Sometimes it covers the whole face and extends to the neck and scalp.

It may be one single, uninterrupted mark, or it may show as several blotches. Usually it is smooth; but there may be wart-like growths on it. The same person may have this kind of birthmark in addition to the other types.

The "spider" mark, the nevus araneus, is a central red dot from which small dilated blood vessels radiate. It may be a true birthmark, that is, congenital; but more often it is acquired after birth. There is another very common kind of birthmark, which consists of a

flat, red stain on the lower part of the scalp in the back.

All these vascular nevi, or common birthmarks, are, with rare exceptions, painless and harmless to the general health. There is seldom any hemorrhage from them, and a fatal hemorrhage is almost unknown.

But it is unnecessary to say that they are a grave misfortune to those who carry them. They are repulsive to the most sympathetic, and on strangers they produce an unpleasant effect that is apt to nip potential friendships in the bud. Even when they "cure themselves," or when an infection breaks them down and destroys them, they are quite likely to form ulcers and scars, which in turn are just as disfiguring. Seldom do birthmarks fade and disappear of their own accord. Instead, they are apt to enlarge, and that makes their removal more difficult and uncertain.

What most people want to know about birthmarks is: Should they be removed as soon as they are observed?

They are first observed, usually, on the new-born infant. That means that they are very small. The rule is: Watch them. If there is the least sign that they are growing in size, have them removed at once.

If the mark is in such a place, or of such a size that obviously it will be a serious disfigurement whether it enlarges or not, it should be removed. Even if the treatment leaves a scar, it will be insignificant, and certainly preferable to the birthmark.

Sometimes such a mark occurs on or near the eyelid or the nose or the mouth. If it grows it may interfere with the functions of these parts of the face. It should, therefore, be treated, but with special care.

Any scar formation which results from the operation may cause a deformity.

The radium treatment is valuable for the removal of vascular growths. It produces fine, smooth, white scars that are soft and pliable. This treatment is a long one, and expensive. It must be administered by an expert, because over-exposure to radium emanations may cause a severe burn and other bad results. But if the expertness of the operator is assured, there is no reason why the radium treatment should not be undergone.

Another method of treatment is that with carbon-dioxide snow. It is applied in the form of a pencil. It, too, leaves a good scar, but the treatment produces very slight pain. Since it causes a blister, care must be taken to avoid an infection.

For small birthmarks, electrolysis is a good method of treatment. The electric needle method is slightly painful and does the work rather slowly; but the results are good. It is specially recommended for the treatment of "spider" marks. The radiations are dotted with the needle as in the treatment of the telangiectasias of rosacea.

There are also certain caustics that produce good results; however, they should never be applied by any one but an expert. The applications have to be repeated several times as a rule; if not properly handled they burn the skin and leave disfiguring scars that may further wrinkle and pucker the surrounding skin.

The larger marks and the flat ones which consist solely of stains are the most difficult to remove. Treatment with the Kromayer lamp, which consists of a quartz chamber that allows the ultra-violet rays to pass through, gives good results with such marks.

There are still other methods of treatment, such as cutting out of the growth, followed by skin grafting; the electric current, and the electro-cautery.

Infection of vascular nevi is the chief thing to guard against. They should be kept clean and free from irritation. If there should be a hemorrhage, it should be stopped by means of firm pressure. Adrenalin and other drugs which clot the blood should be applied. The crust which then forms should be let alone. If it is torn off, the bleeding is likely to begin again, and the subsequent scar will be more disfiguring.

Quite often, of course, birthmarks are very small, even in adult life, and it may not be thought worth while to treat them. It is unnecessary to state that such small marks can be concealed by means of powders and lotions.

To sum up: Birthmarks or nevi are congenital. They begin in the embryo.

The commonest kinds are the pigmented mole and the vascular "stains."

Moles should not be irritated. They may degenerate into cancers. If treated at all, they should be entirely removed.

Vascular birthmarks do not form cancers.

They may fade out of their own accord. But they seldom do. Usually they enlarge.

They are readily removed by the dermatologist with good cosmetic results.

And they are about the only troubles treated of in this book which have no connection with the general health—and even then, poor health makes them look worse.

CHAPTER XI

GROWTHS

*Scars (Keloids; cicatrices)—Warts (Veruccæ)—
Tumors—Skin cancers*

MOST of the conditions discussed in this chapter are distressing because they are disfigurements, though some are serious and malignant. Most of them are in the nature of elevation, though some are level with the surface of the skin or are even depressions.

SCARS

Scars, whatever their cause, shape and size, are rather tricky growths to treat. Their eradication calls for a thorough knowledge of their structure, the prospects for success in removal and a delicate technic in the actual treatment.

A scar is a formation of fibrous tissue which grows in place of the normal tissue of the skin, when the true skin and deeper tissues have been destroyed. There will be no scar when only the epidermis, or outer layer, is destroyed. The scar is a mass of fibrous tissue made up of white and yellow fibres.

Before the scar forms there is usually a breaking down of tissue, which is healed by the formation of the scar tissue. Thus, certain chronic diseases such as syphi-

lis and tuberculosis produce characteristic tissues which are absorbed by the body and replaced by the scar tissue.

When scars are first formed, they are red in color. Later, they pale to pink, and then, frequently, to a fishy white. Usually they are tough, elevated and puckered; but they may be pliable, flat or depressed and smooth. They may grow larger, with time, or they may become less prominent. While they are quite without sensation of their own as a rule, they may produce itching or even pain, especially when their growth or presence irritates nerves.

A keloid is a new growth of the skin which resembles an ordinary scar and usually is so regarded. When keloids appear on the face they are usually pea to bean size, pink or white, rounded, shiny tumors. Small, dilated blood-vessels may be seen over their surfaces. They are firm to the touch. While they look very much like ordinary scars, their growth is not confined to the original injury or sore; they may grow far beyond that location. Sometimes prolongations radiate from the original growth like the legs of a crab. Sometimes a keloid takes the shape of a fig.

The most frequent cause of scars on the face is acne or pimples. The acne causes formation of pustules, and the blackheads and more deep-seated masses atrophy the tissue by their pressure.

Formerly scars from chicken-pox and smallpox were very common; but the wide-spread use of vaccination has practically wiped out smallpox in civilized countries, and the treatment of chicken-pox has advanced to the point where the eruptions may be handled in such a manner as to prevent scars when the lesions heal.

The size and the shape of scars are determined by the size and the shape of the wounds or the sores from which they result. Some scars are characteristic of diseases. Crescent-shaped, serpentine or scalloped scars, or groups of depressed scars, result from syphilis. Thick, puckered and fibrous scars of a peculiar apple-jelly color are a diagnostic symptom of that form of tuberculosis of the skin which is called *lupus vulgaris*. Associated with tuberculosis is *lupus erythematosus*, which usually produces a flat, thin scar on or about the nose. This scar is covered with greyish scales and black scaly dots which adhere firmly over the pores.

It is a peculiar fact that negroes are more apt to grow scars from injuries than are whites. They are also most often afflicted with idiopathic keloids. There seems to be no logical explanation for this peculiarity.

Certain individuals refer to themselves as "thin-skinned" in a literal sense. Actually their skins are no thicker than the skins of others; but it is often true that they grow large, excessively developed scars on the slightest provocation. Such persons, obviously, should be more than ordinarily careful about bruising the skin. If it is necessary for them to undergo operations, X-ray treatments may be employed to prevent the formation of scars.

Like other troubles, scars are most successfully treated when the treatment is begun early, while they are in their formative stage. Certain drugs, so strong that only a physician should administer them, have been used with success. Thyroid extract, iodides and arsenic are given internally, and thiosinamin and creosote are given by injections.

X-ray or radium treatments are very efficient, espe-

cially if used early enough. Where the scar is not treated until it is quite old, it is often cut out surgically and thereafter treated with the X-ray or radium. Endothermy, the electric needle and freezing with carbon-dioxide snow are other methods of treatment. Very small scars are sometimes eradicated by the application of certain caustics, heat, galvanic current and massage.

Pitted scars are sometimes treated by flattening the borders with caustics, thus making the pittings less noticeable. Scars that are very superficial, such as those from acne, are commonly treated with the ultra-violet or the infra-red rays, followed by the application of astringent lotions and peeling solutions.

All this may sound as though scars could readily be eradicated. The truth is that the results are very uncertain. Sometimes they can, and sometimes they cannot. Especially are the prospects poor when the scar is old. And it should be pointed out that very often scars, and even keloids reappear, no matter how carefully they have been removed.

The best time to cure scars is before they grow. An ounce of prevention is worth more than a pound of cure when it comes to scars. Whenever there is an injury to the skin, sterilize the injury and avoid infections until the wound is healed. The skin has a great power of renewing itself, if given a chance. If, despite proper treatment of the injury and systematic cleanliness, scar tissue or keloid begins to form, try X-ray therapy.

WARTS

You may handle as many toads as you care to and nary a wart will they give you. That may not be news, exactly; but it may set a lingering doubt or two at rest,

for there is probably no childhood superstition more deeply ingrained in most of us than the toad-wart theory. Just how the idea arose is not known; but the chances are it is a hangover from the days when a belief in witches was religious dogma.

But if some one who already owned a warty hand fondled the toad and passed it over to you, a wart on your hand might result from the transaction, for all science knows the contrary! Nobody knows definitely what causes warts; but it has been noticed that whole families sometimes grow crops of them, and it is quite possible that they result from infection. Most dermatologists believe that warts are caused by microorganisms; and there have been reports of the discovery of bacteria, but no positive identification.

Warts are quite common. Usually they occur only on parts of the skin that are exposed, as the face and hands; and young persons are more apt to have them than their elders. They favor both sexes with impartiality. Some are flat and others elevated. They may be white, yellow, brown or black; and while most are rough, smooth warts are by no means uncommon.

This much seems certain as to the origin and development of warts: There must be an injury to the skin, even though it be nothing more than a rubbing off of the upper part; and the injury must be inoculated with material from another wart. This statement has been corroborated by the experiments of several investigators who produced warts artificially. They first cut the skin, and then rubbed into the wound material from a wart. Several weeks afterward the wart appeared. About the only other known factor in the growth of warts is moisture, which seems to be conducive to their

growth. For this reason a fertile field for warts is the skin around the mouth and nose.

Six types of warts grow on the face. They are:

1. The common wart, *verruca vulgaris*.
2. The flat wart, *verruca plana*.
3. The juvenile wart, *verruca plana juvenilis*.
4. The thread-like wart, *verruca filiformis*.
5. The seborrheic wart, *verruca seborrhœica*.
6. The senile wart, *verruca senilis*.

The common wart more often grows on the hands; but occasionally the face shows several of them. They develop slowly. In the beginning, their color cannot be distinguished from that of the surrounding skin; but gradually they take on a gray, yellow or brownish color. The surface, at first smooth, becomes rough and scaly. Such warts sometimes are no larger than grape seed when first noticed, growing to the size of a pea or bean. Frequently, the original wart spreads its infection and becomes surrounded by little warts. On the face, the commonest site of these warts is at the angles of the mouth or on the lips.

The flat wart is usually larger than the common wart and is more likely to be found over the cheeks and in wrinkles of the face. As the name implies, they are flat. Their color is yellowish or brown. They are seldom smooth; almost always there are yellow, greasy scales on the wart. When such warts accompany seborrheic eczema of the face and scalp they are called seborrheic warts.

When these warts grow on elderly people they are usually darker, tending to dark brown or black. They are dry and rough to the touch and are covered with scales, so that they look like warty moles. They are

then called senile warts. It is this wart that show a tendency to enlarge, ulcerate and develop into skin cancer. Not uncommonly they occur on the scalp as an accompaniment of senile baldness.

The rather common type of wart that is called the juvenile wart, because it occurs on very young people, is found mostly on the forehead, chin and cheeks. Occasionally this type of wart grows on persons of early adult years. Juvenile warts are usually so numerous that they are difficult to count. They may be the same color as the skin, or yellow, gray or brown, of almost any shape, varying in size from a pin head to a small bean. Almost always they are flat topped. They tend to form in patches. When a line has been scratched in the skin, juvenile warts frequently form right along the line of the scratch.

The threadlike wart grows on the face and neck, most often on the eyelids. It is a long, fine, flexible growth, smooth, gray in color and ends in a point or a blunted tip.

Only the seborrheic and senile warts show any disposition to break down into injurious lesions, cancers. Other warts are harmless, except that they are a disfigurement for the face. The seborrheic and senile warts should be treated as soon as they appear. They probably never disappear of their own accord. Any type of wart, in fact, may last for years, although sometimes they fade away mysteriously many months after their appearance.

It is a curious thing that while warts are entirely an affection of the skin, and so far as science knows, have no relation to any systemic disease, internal treatment will sometimes bring about their eradication. Arsenic

and mercury are the most active of the drugs employed for this purpose; but all of these drugs are so potent that they must be administered by the physician.

Internal treatment for warts is a rare procedure, however. Usually they are destroyed by local treatment. Common, threadlike and some flat warts may be curetted or scraped off. The bases are then treated with various applications to prevent new growths forming. These applications, usually caustics, must be handled carefully, or burns and scars will result. Quacks and beauty doctors should never be allowed to remove warts; for there is every chance that their caustics will bring about worse disfigurements than the warts were.

Other and potent methods of treatment are: Electrolysis, carbon-dioxide freezing, X-ray, radium and endothermy.

When there are several warts it may not be necessary to treat each separately, for it has been observed that when one or two are eradicated, the rest sometimes disappear of their own accord.

TUMORS

In addition to scars and warts, there are other growths which may appear on the face. Some of them are quite harmless, except for their disfigurement, and others are malignant, tending to become cancers. Some of them are merely skin symptoms of internal afflictions, and others are deadly in themselves.

The medical term for a whole class of growths is tumor. Many laymen have the idea that a tumor is never anything but a malignant cancer. Actually it is a mass or new growth, produced by disease, that is not inflam-

matory. Therefore, tumor is a term for many kinds of growths.

Tumors may be of any size or shape. They begin deep in the skin and first appear as swellings. They are of various colors, each shade characteristic of its disease as a rule. They are pearly in cases of cancer, yellow in xanthomas, black in sarcomas, red in birthmarks—and so on. They may be as small as a pea, or as large as an orange. They may stay the same size as at their first appearance, grow larger or even smaller. They may ulcerate—that is, become pus-discharging sores.

In this book it has been thought advisable to describe in detail only the more common and the serious tumors, and to limit description of the uncommon and benign growths to a mere mention.

Xanthoma is a very common affection, and one which the dermatologist is frequently called upon to treat because of the disfigurements which it produces.

It occurs on the eyelids, either on one or all of the lids. Usually there are several growths, though there may be but one. Almost invariably the growth is buff colored. It is best described as looking like chamois skin. The growths may be either flat or rounded, separated or run together to form streaks or patches. As a rule they are soft to the touch; but they may be firm. Their characteristic location is near the inner corner of the eye.

While the typical xanthoma is that occurring on the eyelids, there may be growths all over the body, especially where friction is apt to irritate the skin—the palms, the back of the elbow, the front of the knee and the back.

Xanthoma is the result of an inflammation of the deeper layers of the skin, and of a deposit of fat and cholesterin in the inflamed skin. It was once thought, and still is, by some investigators, that xanthoma is brought about by a degeneration of the small muscles as of the eyelids. Most dermatologists, however, accept the theory that it is due in the main to the deposit of cholesterin from the blood.

Cholesterol is a fatty substance normally present in the blood. Certain diseases, especially those of the bile-producing organs, the liver and gall bladder, throw an excess of cholesterol into the blood, and this excess amount has a tendency to deposit itself wherever the skin is irritated. Xanthoma is frequently found on the skins of persons suffering from inflammation of the liver or gall bladder or from gall-stones. Any one who observes the coming of xanthomas and at the same time seems to be suffering with indigestion should have himself thoroughly examined, especially with a view to determining the amount of cholesterol in his blood. A chemical examination of the blood and urine may reveal a severe constitutional disease. It may be the beginning of gall-stones, diabetes or gout.

Persons with excess sugar in their blood are apt to suffer from xanthomas. Where there is diabetes, a metabolic disorder mainly concerned with the endocrines, accompanying xanthomas may be spread all over the body as well as on the face. If children are observed to be growing xanthomas, diabetes should be suspected sufficiently to insure a most careful examination; because while ordinarily xanthomas are found on adults, the diabetic form is also seen on children.

Xanthomas are often due to disturbed or insuffi-

cient functioning of the thyroid and the ovarian glands. They frequently accompany gout, another metabolic disorder in which there is an excess of uric acid in the blood.

It is quite possible that a tendency to xanthomas is hereditary, since members of a family frequently suffer from them.

Post-mortem examinations have shown that xanthomas may occur internally. They have been found in the liver, heart, aorta and oesophagus, among other parts of the body.

Xanthoma is an affection in which the general state of the health plays an important part. Sufferers from the growth should take plenty of exercise, avoid constipation, maintain a diet that is sparse in fat and sugar, and prevent any irritation of the skin. The flaws in the metabolism or chemical content of the bodily fluids are to be corrected by the physician, who will prescribe such drugs as are indicated by his examination.

For the removal of the growths, the electric needle is used, and almost always with fine results. Or the physician may use chemicals to the same end.

Tumors which need not be described here are: Fibromas, lipomas or fat tumors, colloid, sweat gland, hair follicle, and still others. They require the diagnosis of a dermatologist as well as his treatment. Other growths described in detail elsewhere in this book are: Scars, keloids, warts, moles and birthmarks.

SKIN CANCER

The commonest form of cancer of the face is epithelioma; in fact, it is the typical form. It is derived

from the epithelial cells of the epidermis and the skin glands.

One very treacherous feature of most skin cancers is the fact that they develop gradually at first. It may be years after their first appearance before they become so noticeable that the patient goes to his doctor for treatment. For this reason it is well to be on the look-out at all times.

Any elevated spot that does not go away in a reasonable length of time, especially if it grows larger, ulcerates, or causes a sharp, shooting pain, is sufficiently suspicious to render advisable a visit to the doctor. A crack in the skin which persists, which is crusted, and which will not be healed by soothing applications, is suspicious. Warts that break down and pearl-like lumps may well be the beginning of cancers.

Probably no disease has had bestowed upon it so much research and study as cancer. Yet nothing positive has ever been discovered as to its cause. Dozens of theories have been proposed, almost every month a new discovery is advanced, but not one answer to the puzzle has been substantiated. It has been argued that cockroaches caused or spread cancer. Flies have been similarly accused. Almost every known variety of microbe and bacterium has been considered and rejected.

And all we know for certain is that irritation has something to do with it! Repeated irritation stimulates and changes the mechanism of cell division. A rapid formation of new multiplying cells results eventually in the production of the malignant growth which we call cancer. That much we know—the rest is darkness.

Certain conditions have been found to predispose to cancers, however. Besides irritations of all sorts, phys-

ical or chemical, the predisposing conditions are chiefly a dry, senile skin and chronic inflammation.

Cancers of the face are at times found in moles. Rarely do they develop before the age of forty. The nose, eyelids, cheeks in front of the ears, forehead, lips and tongue are the parts of the face most frequently involved. Places that have long been the seat of chronic inflammation, such as the dry, scaly lips which inveterate smokers sometimes acquire, or the scaly patches left by seborrhea, or old syphilitic patches in the mouth are likely places for cancers to form.

Arsenic tends to stimulate the formation of cancers, and it is, therefore, never administered for a long time to those with skin growths. Persons whose occupation requires them to stay in the sun for long periods of time and those who are constantly exposed to X-rays are predisposed to skin cancers.

There are no blood examinations that reveal cancer. The examination is by means of a microscope, which enables the pathologist to detect certain changes in a given area of skin that are characteristic of cancer.

Skin cancers first appear as rough, scaly spots, warty growths, pink or pearly hard nodules in the skin, or as crusted ulcers or cracks, or as moles. The first sign of malignancy is their tendency to ulcerate and enlarge. The centre of the growth becomes a sore with a slight watery discharge which dries and forms an adherent crust. The crust is surrounded by an elevated border of pink or pearly color, and feels hard. It may extend over the top of the skin or it may grow down through the deeper tissues into important organs, such as the eye, mouth, nose, brain, lymphatics. Thus it becomes fatal. Some of the surface cancers show a tendency to

heal, leaving scars, at the same time that the ulcers appear and spread in other places. Certain types spread rapidly, form ulcers with foul discharges, bleed easily and are very painful.

An especially malignant type of skin cancer is the squamous, or pricked cell, which occurs mostly on mucous membranes, such as the lips and tongue. The most malignant of all skin cancers is the melanotic or pigmented type. It usually starts in pigmented moles, and of these the deep blue and black moles are the most dangerous. It is well to repeat here: Do not irritate them. Do not fool with them, to use a comprehensive and comprehensible expression. Let them severely alone.

Prevention is the most important factor in the treatment of cancers. Do not under any circumstances irritate any injuries to the face. An early diagnosis is essential. Once cancer gets a good start, the game is often over.

What treatment can accomplish, if anything, depends on the type of cancer, its size, its duration and the extent to which it affects or may affect other organs. Cancer is, and should be, a fearful word; but to the dermatologist who takes hold of a case that is yet young, it is not so fearful, because he knows that it is possible to effect a cure.

Very often skin cancers are quite superficial. In such cases he has to choose between an operation, under local anesthesia; curettage of the skin, followed by caustic applications; removal with the electric needle; the electro-cautery, or freezing with carbon-dioxide snow.

Endothermy is an especially valuable treatment for both large and small cancers of the skin. The high-

frequency electric current produces a great heat in the growth. The heat dries up the water in the cells. The dehydration kills them. If this were all, malignant cells would escape into adjacent tissue and thus spread the disease; but the heat causes a clotting in the blood vessels, which closes them. A beautiful simple chain of events.

X-ray and radium treatments are most valuable. Together with endothermy they are the best methods of treatment for skin cancers. Surgery alone or combined with other therapy, especially X-ray and radium, is employed for removal of the larger growths, particularly in the mouth and on the lips.

Metastatic growths are also treated. It is frequently found advisable to treat the adjacent lymph nodes with X-ray, even if they do not seem to be affected.

So skin cancers are not so hopeless, after all—providing they are treated in time.

CHAPTER XII

DISEASES OF THE SWEAT GLANDS

Prickly heat (Miliaria)—*Sweat cysts (Sudamina)*
—*Excessive sweating (Hyperidrosis)*—*Bromidosis*
(*Sweating with foul odor*)—*Colored sweating (Chromidrosis)*

PRICKLY HEAT

PRICKLY heat, or heat rash, is an acute inflammatory disorder of the sweat apparatus. It may occur all over the body or on limited areas. When it involves the skin of the face, it may affect all of the face, or only those regions most exposed to heat, or where evaporation of sweat is prevented, as for instance, the forehead under the hat band.

It may affect persons of any age; but infants and children are most susceptible to its attacks. It is most prevalent in the summer, of course. Laundry and furnace workers, because of their exposure to heat, frequently suffer from it. Alcoholic excesses and poor constitutional health tend to bring it on.

The prickles, or rashes, are produced by inflammation of the ducts, sweat glands and the surrounding skin. They are pointed or rounded elevations, ranging in size from a pin point to a pin head. Sometimes they are solid; sometimes they are full of a fluid, which

makes them resemble little blisters. Sometimes both solid and blister formations are present. When they are opened, the fluid may escape.



The normal sweat gland and duct.

The skin around them is pink or red. The prickles may remain separate, or they may run together and form inflamed patches which develop into eczema. There may also be small or large inflamed patches, red, moist, oozing and crusted, and if there is secondary infection by pus germs, boils and abscesses may result. Burning or itching of the skin almost always accompanies this complaint, especially severe where eczema has set in.

The first step in treating prickly heat is obviously the removal of its cause. The skin must be kept cool; pressure and all irritations such as friction avoided. Cleanliness is essential. The skin and everything coming in contact with it must be kept free from infection.

Babies and children, especially, must not be too warmly clothed. It is better to keep them lightly clad in a warm room than heavily dressed in a cold one. They should be bathed frequently. Often the general constitution is below par; in such cases the bowels must be kept open and tonics administered. It is well to give them plenty of water and cool drinks.

Soap and water should be used for local treatment, unless eczema has developed, in which case soap is

omitted. Powders and soothing, cooling, lotions are valuable. There are pastes to use for the eczema, and for local infections, soap, and water, and mild antiseptics.

SWEAT CYSTS

The cause of this condition is a blocking of the pores of the skin. The sweat is dammed back and the result is the formation of minute elevations containing sweat cysts. These cysts look like tiny blisters. They are numerous, close together, crystalline like a bubble, in size from pin point to pin head. Their walls are thin and easily broken. When they break the dammed up sweat escapes and the cysts form minute red spots. They come and go quickly. Usually they appear on parts of the body which are covered and kept warm.

On the face they accompany fever or exposure to high temperatures. Persons whose occupation subjects them to such temperatures—washwomen, laundry workers and firemen—are prone to contract these cysts. Steam baths and the application of hot fomentations may produce them. They also accompany diseases which produce excessive sweating, as for instance, general debility, acute fevers and tuberculosis.

Internal treatment consists of remedies for the systemic disease which causes the sudamina. When one's occupation predisposes to the condition, it is especially necessary to keep the skin cool and clean and free from anything which may obstruct the pores. Soothing local baths, such as starch, bran or alkaline baths, will alleviate the condition. To keep the skin cool, powders and lotions are valuable. They also aid evaporation, protect the skin, keep the skin dry by removing sweat and help

to heal the secondary inflammation of the skin that may develop.

EXCESSIVE SWEATING

Excessive sweating may be confined to certain regions, or it may affect the skin of the whole body. It may be normal, or it may be indicative of an abnormal condition. Certain parts of the body normally sweat more than others. These areas are: The palms, the soles, the backs of the hands, the webs of the fingers and the toes, the armpits, the genitals and the temples. Some people sweat more than others and more readily, especially under exertion in a high temperature or under emotional stress. Such individuals may sweat mostly in certain areas, as on the palms and the temples. The sweat may form in large beads. The sweating may be confined to one side of the body.

The skin is clammy and moist. Drops of sweat cover the face and in severe cases run down in streams. Excessive sweating may irritate the face until it develops dermatitis, inflammation of the skin, and lay it open to pus infections. In certain nervous disorders one side of the face may be sweating profusely while the other side is comparatively dry.

Fat persons are peculiarly given to excessive sweating. Tuberculosis, rheumatism and malaria produce it. It is marked in persons whose thyroid glands function excessively, such as sufferers from exophthalmic goitre. The excessive sweating is often incited by too much smoking, and by drinking stimulating beverages, alcohol, coffee, tea and cocoa.

Excessive sweating may be induced by functional

and organic diseases of the brain and upper spinal cord. Nervousness and psychological disturbances are often important factors. Heredity is another factor.

The general treatment consists of tonic measures: Rest, relaxation, proper diet and relief from constipation. There are drugs which the physician will prescribe. They are very powerful and may do a great deal of damage if not properly controlled.

The local treatment consists in frequently washing the skin, afterward drying it thoroughly. Cold applications are valuable for improving the tone of the skin. The face should be given all the fresh air and sunlight possible. Greasy preparations which irritate the skin and interfere with evaporation should be avoided. The right kind of face powder and evaporating lotions are of great value. Then there are local applications containing drugs of specific action, but these preparations are to be used only by direction of the physician.

Usually the patient is advised to wash the affected parts frequently with fluids which heighten the tone of the tissues in general, such as alcohol, dilute acids and solutions of alum. It is very important to keep one sweating surface from another. To accomplish this powder may be sprinkled on the skin or on wads of cotton and then applied. The clothes should be changed frequently. If the sweating areas contain hair, alkaline soap should be used to free the hair from the sweat secretions, after which an alcohol solution is applied.

There are a great many patent preparations sold as deodorants which contain chemicals like formalin. Some of them are highly perfumed and expensive. They are largely used in the armpits. Usually they contain

vinegar and alcohol, and are of value if properly used. But many of them are nothing more than perfumes, and what they accomplish is a mingling of pleasant and bad odors—a mixture more objectionable than the bad odor alone. A preparation which does not remove the cause is worthless. Cleanliness should be the main object in view. The best way to attain this is by frequent washing. For some reason, however, many persons seem to prefer to drench themselves with sweet smells from a fancy bottle rather than rub on a little soap and water. The average aversion to simple and inexpensive cleanliness is a fearful and wonderful thing. Perhaps it begins in childhood, when washing is imposed as almost a punishment; but it certainly is moulded into a phobia by the advertisements for certain cosmetics. If these are to be believed, the skin is so delicate that nothing grosser than liquid gold in platinum flasks should be allowed to touch it. The truth is, to say it again, that the common, advertised toilet soaps and plenty of cold water are as good as anything else for the normal skin, and much better, often. It is the skin's misfortune that soap and water do not come high!

There are some cases of hyperidrosis in which the application of X-rays is effective. A single, proper application of X-ray has been known to cure hyperidrosis of the palms.

The actual secretion of sweat may be lessened by a number of medicaments given internally, and local hyperidroses have been thus treated. Atropine and agaracin have a remarkable effect in cases of general hyperidrosis, and sometimes effect a permanent cure of local hyperidrosis. Often, however, their effect is only

temporary. Since they may have grave effects upon the system, they are to be administered only by the physician.

BROMIDROSIS

The word is used here not through any false sense of delicacy or niceness—as should be apparent from reading other parts of this book—but because it is a convenient way of saying “a condition wherein the sweat has a foul odor.” The reason applies, incidentally, to many medical terms, which the layman often regards as proofs of an attempt to keep medical sapience from his ken, and to shroud simple facts in esoteric mystery. Medical Latin is really a convenience and a sort of Esperanto. As a sample, the one word *bromidrosis* does the work of at least nine, and any doctor anywhere in the world understands it and gives that condition the same name.

Every individual has some bodily odor peculiar to himself. It may not be very apparent, but it exists. To keener noses than our own this odor is an important part of our personalities, as dog owners will testify. Undoubtedly it has a vast influence on the attraction or repulsion which we exert on others, though they may be unconscious of it.

This bodily odor is due to sweat. Certain conditions arise which give sweat an abnormal odor. Besides occurring in hyperidrosis, it may be produced as an accompaniment of certain skin diseases such as syphilis, where there is ulceration and decomposition.

Certain drugs, among them valerian, musk and

asafetida, may produce a foul odor of the sweat. Chronic alcoholism, diabetes, gout, typhoid, typhus and pus infections of the blood may produce it. Arsenic, prescribed for many ailments, may produce a garlic-like odor.

Anyone of any age or sex may have bromidrosis; but it would seem that brunettes suffer from it more often than blondes, or it might be put another way, that their odors are more pungent.

The treatment is practically the same as for hyperidrosis. In addition, there should be an avoidance of foods or drugs which cause it. Local measures may be supplemented by proper use of the X-ray, but this treatment is rather uncertain.

Metabolic diseases such as gout may produce a peculiar odor by throwing excretions like urea into the blood in excessive amounts. The treatment here is obviously that of the disease. Once the faulty metabolism is corrected, the offensive odor will disappear.

COLORED SWEATING

This is a very disagreeable condition, known technically as chromidrosis, in which the sweat has a peculiar color—red, yellow, blue or green. Usually it is due to the presence of bacteria. The treatment is the same as that for hyperidrosis, with the application of mild anti-septics.

If many people are to be taken literally, they suffer at the slightest provocation from nothing less than hematidrosis. At least, they often assert that they sweat blood under harassing strain. These days we under-

stand that they are merely employing a figure of speech, but the ancients might not have made that allowance. They firmly believe that such things happened.

It is possible that blood might ooze out on the skin from the capillaries, by way of the sweat pores, in severe infections, neuropathic conditions, purpura or vicarious menstruation. But it is doubtful if it ever occurs as a part of sweating. Most reported cases—and they are few—are probably not authentic. At any rate, there are other things to worry about. Any one who exhibited this condition could make a good living touring the medical schools.

CHAPTER XIII

NERVOUS ERUPTIONS

Abnormal Sensations—Itching (Pruritus)

ABNORMAL SENSATIONS

THE skin can experience all sorts of peculiar sensations without undergoing any of the visible changes characteristic of infection or inflammation. This sensitivity may be confined to the face, or it may involve the whole bodily covering. The sensitivity may increase or diminish, may be chronic, acute or recurrent.

Persons so affected describe these sensations as creeping, tingling, pricking, darting, burning. Some tell how their faces receive electric shocks of heat and cold. Others speak of throbbing pain, numbness, tension and itching.

These complaints, temporary or permanent, may be due to external irritants, functional nervous complaints, or to definite organic changes in the spinal cord or brain. Diseases that bring on these abnormal sensations are metabolic, such as gout, rheumatism, diabetes; or general toxic conditions, such as chronic constipation, alcoholism and infectious diseases.

The sensations may be so severe as to be really troublesome. Their relief depends, of course, on the discovery and cure of the cause, which often requires a thorough examination and patient treatment. Local

treatment consists of protection from external irritation, application of soothing remedies, hydrotherapy, physiotherapy, and very frequently, psychic treatment.

ITCHING

One of the most common of all these complaints is pruritus. There are no visible signs, such as swellings or redness, which are directly symptoms of this condition, but it may indirectly produce distinct facial blemishes. As with most conditions where itching is present, the dermatologist finds what he calls excoriations—the marks left when the patient scratches his face in a vain attempt to relieve the itching. This scratching may result in secondary infections and inflammations that develop symptoms of eczema. Or pus may appear. In cases of long duration the constant irritation thickens the skin.

In all cases of pruritus, a search must be made for possible causes. They may be of external origin; but frequently constitutional disorders are found. Disturbances such as constipation, intestinal parasites, liver trouble, Bright's disease, nervous diseases and general debility must be looked for. The pruritus may be the first sign of diabetes, cancer or tuberculosis.

Certain drugs produce it; and it is one of the commonest effects of an addiction to habit-forming drugs, such as opium, morphine, cocaine and heroin. When "there is a yen on," as the addict expresses it—that is, when his diseased system craves the drug—the itching is intense. In particular, an unmistakably characteristic quick rubbing of the nose betrays the addict to the experienced observer.

Not all the drugs that produce pruritus are narcotics, however. Nor is it necessary to take any great quantity of the drugs in order to produce the itching. Perhaps as frequently it is the result of an indiscretion in diet. Or it may be caused by a disturbance of the glands of internal secretion—thus it is one of the most troublesome symptoms of the climacteric period.

Very often it is due to external causes. One type of pruritus occurs just after the face is washed, or when entering a warm room from the cold. Contact with chemicals, as in cosmetics, or with furs may produce it. Persons with dry, sensitive skins may get it from strong soaps or from irritation with water.

Directly, however, it is due to nerve disturbance.

In treatment, it should be clearly realized that it differs from other skin diseases of which itching is an accompaniment. The cause must be found and corrected. Almost always a change in diet is ordered. Simple fare is the rule. Stimulants such as coffee, tea and cocoa and alcohol are forbidden. Alkali water such as Vichy should be drunk freely. Often a laxative is taken, and then a starvation diet is endured for a few days. The diet, however, depends on the state of the constitution.

Physicians employ various drugs internally; but opium, cocaine and their derivatives are never given, since they increase the itching. The face is to be protected from all forms of irritation and especially against sudden changes in temperature. Alkali, bran and starch applications are soothing. Very fine powder, wet dressings and lotions, especially if medicated with cooling, soothing substances, help to anesthetize the skin and its nerves.

For oily skins these soothing and healing substances

are best applied in the form of powders and lotions. Creams are more beneficial for dry skins. In obstinate cases, X-ray, ultra-violet ray and galvanic electricity are of some value.

Very often these affections of the face descend upon persons with nervous complaints. Sometimes they are the result of psychic conditions purely and simply, and should be treated accordingly.

GLOSSARY

A

Acne Treatment: Results in marvellous cures. This is accomplished by internal treatment and the local use of various measures, the best of which is the application of measured doses of X-rays.

Acne Vulgaris: This is probably the most common of all skin conditions. It occurs mainly on the face, back and chest. It is caused by a skin infection with the acne bacilli, and is predisposed to by constitutional disorders like constipation, endocrine disturbances, excessive carbohydrate diet, anaemia, indigestion and general debility.

Acneiform Eruptions: Eruptions resembling acne, which may be produced by the internal use of iodine or bromides and by the application to the skin of tar or oil.

Alopecia: See *Baldness*.

Argyria: A blueness of the skin resulting from the continued internal or external use of silver compounds.

B

Baldness: (*Alopecia*) : Caused by local infections, constitutional disorders, heredity. The infections may be

seborrheic eczema, folliculitis, boils, ringworm (see text, Chapters V, IX). Constitutional disorders include typhoid fever, erysipelas, pneumonia, influenza, diabetes, tuberculosis, kidney diseases, gout, rheumatism, nervous disorders, syphilis and endocrine disturbances. These cause baldness by the action of germs, by the poisons in the blood and by abnormal functions of the body.

Bacteria: Microscopic organisms which thrive under unhygienic conditions and produce skin and internal diseases.

Barber's Itch: A ringworm infection of the hair of the face.

Birthmarks (Nevi): Growths of the skin, usually of blood-vessel formation. They are formed in the embryo. Treatment gives excellent results.

Blackheads (Comedones): Oat-shaped bodies, formed in the mouths of the follicles and composed of horny cells, sebum and bacteria—the first formations in acne. They are not “dirt” as is commonly supposed.

Boil: Circumscribed pus infection of the hair follicle and the tissues around it in the corium. It is a hard, red, painful swelling, which discharges pus and breaks down to form a slough that separates out like a core. It should rarely be cut. Treatment should always include constitutional treatment.

Brillantine: An oily mixture in glycerine or alcohol with perfume, used to lubricate hair and make it pliable, smooth and glossy.

Bromidrosis: Sweating accompanied by a foul and offensive odor.

Bulla: A blister. It is a large elevation containing fluid.

C

Cancer: A malignant growth derived from the epithelial cells. There are two types usually occurring on the face, the basal cell or rodent ulcer, which is slow in growth and not so malignant as the other type—the squamous cell. Early diagnosis and the early institution of proper treatment make cancer of the skin not such a terrifying condition.

Carbuncle: A large, deep, pus-filled, sloughing mass, which is deeper than a furuncle and discharges pus through several hair follicles, and not only through one as does a furuncle. Treatment should always be constitutional, combined with wide incisions and drainage of pus.

Chapping: A form of dermatitis showing abnormal dryness, redness, scaliness and cracking of the skin. It is due to external irritation, such as cold and wind on a too dry skin.

Chilblain: A frostbite.

Chloasma: See *Liver Spots*.

Cold Sores: See *Herpes Facialis*.

Comedones: See *Blackheads*.

Corium: The true skin; the middle and main layer of the skin.

Cream: A cream is a salve containing water. The water in *cold cream* evaporates, water is taken from the skin, and the skin is thus cooled. The *vanishing* cream contains tragacanth, glycerine or sapolan, instead of fat.

D

Dermatitis: An inflammation of the skin. Considered

identical with eczema. The causes are more frequently local or external, and there is greater moisture, but it is of shorter duration.

E

Eczema (Ec'-zema): A very common skin inflammation. It is a catarrh of the skin. The signs are redness, swelling, vesicles, oozing, crusting, scaling, thickening, cracking and itching of the skin. (For causes and treatment, see text, Chapter VI.)

Endocrines: The endocrine glands secrete chemicals which enter the blood to affect growth, development, character and metabolism. They work through the nervous system or directly upon the cells.

Ephilides: See *Freckles*.

Eruption: An eruption is an abnormal development on the skin, usually due to an opening of the blood vessels. As a rule, it is accompanied by increased fluid and overgrowth in the tissues.

Erysipelas: A rapidly spreading, brawny red inflammation, with high fever and great constitutional disturbance; is caused by a specific germ (see text, Chapter IX).

Epithelioma: Skin cancer.

F

Fever Blisters: See *Herpes Facialis*.

Follicle: The hair follicle is a cylindrical depression of the epidermis and the corium in which the hair grows. The so-called advertised "hair foods" do not act as foods for the hair. The hair is nourished by the normal healthy blood.

Folliculitis: Inflammation of the hair follicle and its surrounding tissue. It may or may not show pus formation.

Freckles (*Lentigo, Ephelides*): Small pigmented spots usually due to the action of the ultra-violet rays on the skin.

Furuncle: See *Boil*.

G

Gray Hair: Depends upon pigment deficiency and increased air in the hair.

Gin Blossom: See *Rosacea*.

H

Hair: The hair is made up of cells which are horny. The color depends upon pigment and air bubbles.

Hard Water: Bad for cleansing, because of the presence of calcium and magnesium. It curdles soap, makes more rubbing necessary and irritates the skin.

Herpes Facialis (*Cold sores; Fever blisters*): An inflammation of the facial skin, characterized by small vesicles on a red area, caused by internal disorders like constipation, fever, infections, nervousness and menstrual disorders.

Herpes Zoster (*Shingles*): This resembles herpes facialis or simplex, but is due to inflammation of a nerve. The vesicles occur along the line of the nerves. It is more painful, but is not recurrent.

Healthy Skin: A good complexion depends upon good blood and is a dial indicating good bodily health.

Hyperidrosis: Excessive sweating.

Hypertrichosis: Superfluous hair. The safest and best way to treat it is by means of the electric needle. The X-rays should not be used. They are most dangerous in the removal of hypertrichosis.

Hives: See *Urticaria*.

I

Infections of the face are of three types: Those due to pus-forming germs, as in boils; those due to vegetable parasites, as in ringworm; and those due to blood infections, as in syphilis.

Impetigo: The most superficial of skin pus infections.

J

Jaundice: A yellowish discoloration due to the deposit of bile salts in the skin (see text, Chapter VIII).

L

Liver Spots (*Chloasma*): Large discolorations of the skin due to an increased deposit of pigment. Usually they have no connection with the liver (see text, Chapter VIII).

Lipstick: A cream or wax preparation containing red pigment, carmine or eosin, to color the lips. It may injure the vermillion and the skin.

Lentigo: See *Freckles*.

Lotion: A fluid preparation that contains a large amount of powder. Lotions are usually called shake mixtures. When spread on the skin, the water evaporates, the skin is cooled and soothed, and the powder

that remains protects, soothes, cools and dries the skin.

M

Massage: As a rule massage of the face is harmful especially in the presence of skin infections. It is rarely beneficial. The effect is mainly psychic.

Milia (Whiteheads): Pin-head-sized, pearly elevations occurring usually on the face, caused by cystic retention of sebum in the mouths of the follicles.

Miliaria: Prickly heat.

Moles: Birthmarks. They are congenital in origin. They are pigmented or non-pigmented, and may be hairy. Care and perfect judgment must be employed in their removal. If irritated or imperfectly removed, they may form very malignant cancers.

Mud Packs and Clay Packs: These are of no use in the care of the face. Their good effects are exaggerated. They are made from kaolin (powdered clay). A pound, which costs about twenty cents, may be mixed with water, and a complexion clay, sold for from one to ten dollars, is produced.

N

Nettle Rash: See *Urticaria*.

Nevus (Birthmark; Mole): A congenital growth. Three main growths are usually described as: Vascular, pigmented, hairy (see text, Chapter X).

Normal Skin: Smooth, firm and of healthy texture. Good, clear color and tone. It is neither too oily nor too dry and lacks growths, malformations and eruptions of any sort.

O

Ointment: A fat preparation containing a drug.

Occupational Dermatitis: An inflammation of the skin as a result of exposure to or contact with harmful agents necessitated by daily work.

P

Papule: A solid elevation of the skin up to the size of a pea.

Paste: A fat preparation containing a large amount of powder. It protects and soothes while it takes water from the skin to reduce inflammation.

Peeling Preparations: Consist of salves, usually containing a drug like resorcin, which cause a marked inflammation of the skin, followed by a peeling of the skin. The skin is then soothed. The effect, as is the case when used for acne, is only temporary.

Pimple: A pustular formation. "Pimple" is at times used as a synonym for acne vulgaris by most of the laity.

Poison Ivy (*Dermatitis venenata*): An inflammation of the skin due to a chemical. It may be produced by the chemicals from plants, such as the ivy, sumac, primrose, nettle, etc., and in dyes, paints and innumerable other substances.

Powder: Face powder is an important adjunct to the daily care of the face. It cools, protects and hides defects in the complexion. The most common ones are made from starch, wheat, rice, potato, zinc oxide, zinc stearate, zinc carbonate, talc, boric acid, kaolin. Some of the powders are poisonous, because

of the chemicals that they contain, such as lead, bismuth, arsenic and mercury.

Prickly Heat (Miliaria) : An acute inflammatory disorder of the sweat glands.

Pruritis (Itching) : It may be a symptom of a skin disease, or a disease in itself.

Pus : An albuminous fluid produced by the action of germs, and containing white blood cells.

Pustule : An elevation of the skin containing pus.

R

Ringworm : A vegetable parasitic fungus infection of the skin (see text, Chapter IX).

Roentgen Rays (X-rays) : They should not be used for hypertrichosis, as suggested by quacks. They are, however, of great value when used properly by the physician for various other skin conditions like acne, for instance.

Rosacea (Gin blossom; Rum blossom) : A disease of the sebaceous glands essentially. It affects the middle one-third of the face. It is characterized by redness, prominent blood vessels, papules, pustules, large masses and a deformed, enlarged nose. It is mainly due to wrong diet, internal disorders as in the stomach, intestines, nervous system and endocrine glands. Conditions around the nose like heavy glasses or nasal disease, as well as external factors like the wind and cold, may produce it.

Rouge : A powdery preparation containing carmine or eosin, which are red, and mixed with other pigments to give various shades.

S

Salve: A collective term for various preparations of fat; creams, pastes and ointments.

Sarcoma: A malignant tumor made up of blood vessels and various types of cells. It spreads through the blood stream.

Scar: The final result of a destructive lesion, as after an ulcer or burn. The destroyed tissue is replaced by fibrous tissue, thus constituting nature's repair work.

Sebaceous Glands: The fat, or oil, glands. The secretion from these glands is called *sebum*.

Sebum: The oily secretion formed in the sebaceous glands. Lubricates the skin and the hair.

Seborrhea: The abnormal, increased, secretory activity of the sebaceous glands. Results in greasiness of the skin and enlarged follicles. It may go on to form dandruff, crusts, eczema, baldness, warty growths and cancers.

Skin Worms: Not really worms. They are blackheads and are made of horny cells, sebum and bacteria, formed in the mouths of the follicles.

Skin Structure: See text, Chapter I.

Skin Functions: Protection, absorption, heat regulation, respiration and sensation.

Skin Nourishment: Nourishment of the skin depends upon the blood. The blood is the only skin food.

Shingles: See *Herpes Zoster*.

Soap: Chemical combination of fatty acids and alkalies. With water, it is the most valuable agent for keeping the skin normal and healthy. Mixed with water, the alkalies are set free and attack the grease

and dirt. Its strength depends upon the alkali content. The alkali content should not be too strong. Weak soaps may also irritate the skin, if the fat is rancid or of poor quality. The best soap is a neutral soap containing $\frac{1}{4}$ to 1 per cent. of free alkali and good fresh oil or fat.

Soft Water: Free of calcium and magnesium, and made from hard water by boiling or by the addition of borax or bicarbonate of soda. Rain water is soft.

Steaming of the Face: Of very little value. It causes too much relaxation and may irritate. It may aid in cleansing. It should be followed by cold applications.

Sudamina: Characterized by the formation of superficial sweat cysts. Caused by blocking of the pores.

Sunburn: Dermatitis of the skin, caused by the ultra-violet rays of the sun.

Sweat: A watery secretion from the sweat glands, excretes waste, cools and moistens the skin.

Sycosis: Folliculitis of the face. May be due to pus germs or ringworm parasites.

T

Telangiectasias: Enlarged, prominent skin blood-vessels, appearing as red and purplish streaks.

Temperatures of Water: Various temperatures of water are employed. Cold is below 70° Fahrenheit; cool, between 70° and 80° ; lukewarm, between 80° and 95° ; warm, from 95° to 99° ; hot, above 99° . Cold water contracts and tones the skin. Warm water is more cleansing and relaxes the skin.

Toilet Waters: Solutions that are soothing, antiseptic, softening, cooling and drying because of drugs

like borax, camphor that they contain. Perfume and coloring matter are added for æsthetic purposes.

Toilet Vinegars: Perfumed diluted solutions of acetic acid (vinegar), to which are added perfume and coloring matter. They relieve congestion and have a drying effect.

U

Urticaria (Hives; Nettle rash): A common complaint involving all parts of the skin; characterized by a sudden eruption of wheals and itching.

V

Vitiligo (White spots): The absence of color in areas of the skin. It may be permanent or temporary, as in syphilis.

Vesicle: An elevation of the skin up to the size of a small pea, containing fluid.

W

Warts: Various types of growths which may involve the face. (For descriptions, cause and treatment, see text, Chapter XI.)

Water: Water is the best agent for cleansing and keeping the skin normal. It removes dirt, sweat, oil and bacteria. It stimulates secretion and excretion, softens the skin, stimulates the blood-vessels and makes the skin firm by causing contraction of the blood vessels.

Wen: A sebaceous cyst. A sac-like tumor formed by

retention of sebum due to obstruction of the follicle.

Wheal: A lesion of the skin found in hives (urticaria).

It consists of a central white zone surrounded by a pink area.

Whiteheads: See *Milia*.

White Spots: See *Vitiligo*.

X

Xanthomas: Common, buff-colored growths, occurring usually on the eyelids. They are soft, flat or elevated growths, looking like chamois skin.

THE END

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